ROCKS AND MINERALS

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An attractive agate from the Park of Condie, Perthshire, Scotland.—Sandy Kennedy collection, Glasgow, Scotland.

60c

July - August, 1956
Whole Number 253

68th LIST OF MINERALS

PYRRHOTITE, Potosi Mine, Mexico. Well xld. on matrix. .3x2x2	$7.50
ZORGITE (CACHEUTAITE), Cacheuta, Argentina. Mass 1½x1	4.00
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HETEROGENITE, Good Springs, Nevada. Masses in rock. 3x2x2	3.50
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LINDGRENITE, Chuquicamata. Xld. in matrix. 2x1½	3.00
CATAPLEIITE, Norway. with associated minerals. 2½x2	3.00
TILASITE, Langban. Xlline. w. other minerals. 2x2x1½	3.00
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SCHALLERITE, Franklin. Xlline. mass in ore. 2½x2	3.50
HOKUTOLITE (PLUMBIAN BARITE), Japan Xlline. mass. 2½x2x1	3.00
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TANTALITE-COLUMBITE, Wyoming. Crude xl. mass. 3½x2x1½ (18 oz.)	6.00
LISKEARDITE, Cornwall. Minutely mamm. coating on rock. 3x2½x2 ...	6.00
APATITE, Bohemia. Six lilac xls. w, xld. Quartz on rock. 2x1½	5.00
ROEMERITE, Island Mt., Cal. Minutely xld. mass. 2½x2	2.50
ENGLISHITE, Utah. Pearly plates w. associated minerals. 2x1¼	5.00
HEDYPHANE, Langban. Xllne. mass. 2½x2	3.00
PINAKIOLITE, Langban. Xls. in matrix. 2½x2x1½.	2.50
SWEDENBORGITE, Langban. Xlline. w. associated minerals. 2½x2x1½ ..	3.00
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KROHNKITE, Chile. Brilliant blue xlline. mass. 2x1½	2.50
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THOMSONITE, v. FAROELITE, Färöe Is. Xld w. Apophyllite on rock. 2½x2½	2.50
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HUGH A. FORD

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ROCKS and MINERALS

PETER ZODAC, Editor and Publisher

America's Oldest and Most Versatile Magazine for the Mineralogist, Geologist, Lapidary.

Published Bi-Monthly

OFFICIAL JOURNAL

ROCKS & MINERALS ASSOCIATION

WHOLE NO. 253 VOL. 31, Nos. 7-8 JULY-AUGUST 1956

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Entered as second-class matter September 13, 1926, at the Post Office at Peekskill, N. Y. under the Act of March 3, 1879.

Title registered in U. S. Patent Office.

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Specially written articles (as contributions) are desired.

Subscription price $3.00 a year; Current numbers, 60c a copy. No responsibility is assumed for subscriptions paid to agents and it is best to remit direct to the Publisher.

Issued bi-monthly on the 20th of the even months.

Authors alone are responsible for statements made and opinions expressed in their respective articles.

ROCKS and MINERALS, BOX 29, PEEKSKILL, N. Y., U.S.A.
(Office — 157 WELLS STREET — Tele. Peekskill 7-3185)

CHIPS FROM THE QUARRY

COMING EVENTS

Aug. 30, 31, *Sept.* 1, 2, 3 (Labor Day), 1956—San Fernando Valley Agricultural Fair Mineral & Gem Show, Devonshire Downs Fair Ground, 18,000 Devonshire St., Northridge, Calif.

Sept. 2, 1956—Gem Village Rendezvous, 12th Annual Rock Show, Buy, Trade, or Sell. Admission and table space free. Mrs. Frances George, Secretary, Gem Village, Bayfield, Colo.

Sept. 15, 1956—South Bay Lapidary and Mineral Society Annual Show. Clarke Stadium, 861 Valley Dr., Hermosa Beach, Calif. Doris L. Groger, Corres. Secy., 708 Maryland St., El Segundo, Calif.

Sept. 28, 29, 30, 1956—Eastern Federation Convention. Host—Gem Cutters Guild of Baltimore. Mrs. Elsie Kane White, Gen. Chairman, 3418 Flannery Lane, Baltimore 7, Md.

Oct. 6, 7, 1956—Humboldt Gem & Mineral Society will hold their 3rd Annual Gem and Mineral Show at the Carson Memorial Building in Eureka, Calif.

Oct. 14, 1956—5th Annual Field Day of the Shawnee Geology and Rockland Club. Main Shelter House, Gage Park, cor. 6th & Gage, Topeka, Kans.—E. L. Banion, 3716 Churchill Road, Topeka, Kans.

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ROCKS and MINERALS comes out once every two months as follows:

Jan. - Feb., out about.....Feb. 20
March - April, out about.....April 20
May - June, out about.....June 20
July - August, out about.....Aug. 20
Sept. - Oct., out about.....Oct. 20
Nov. - Dec., out about.....Dec. 20

Field trip chairmen's corner wanted!

Editor R&M:

How about starting a field trip chairmen's corner? A spot in your magazine where we can discuss field trips with others in different states. It would save us a lot of time and money. It's pretty rough on a field trip chairman locating new places to visit, who to contact for permission, and just what is found in location.

Field trip chairman
Newark Society
Michael F. Kidzus
23 Ravine Drive
Matawan, N. J.

June 28, 1956

(Editor's Note: What do you say, Field Trip Chairmen, do you want such a corner?)

Photo on the Cover

The photo on the cover is of an attractive scenic agate in the collection of Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4. Scotland. The specimen comes from the Path of Condie, Perthshire, Scotland. Mr. Ramsay calls it his "Iceberg" agate — The "ice" is a nearly whitish pink with red spots (very small, probably jasper) floating in the sea which is light blue.

See "Hunting agates in Scotland", by Sandy Ramsay, R & M, March-April 1954, pps. 127-129.

A KOREAN COLLECTING ADVENTURE

Paul F. Patchick

901 North Lake Avenue, Pasadena 6, California

Developments in Seoul

It all began during the Fall of 1953 in the capitol city of the Republic of Korea. I was then assigned to the Engineer Intelligence Division of Eighth Army Headquarters, where I was in close contact with Korean mining activities. One afternoon I received an impressive looking envelope covered with *Hanmun* (Chinese) and *Onmun* (Korean) characters and plastered with five Hwan stamps. The return address was in English, so I didn't have much difficulty in reading that: "College of Liberal Arts and Sciences, Seoul National University, Seoul, Korea." I noticed that they managed to spell my name correctly (and it's more difficult in *Onmun* than in English), and proceeded to read the contents with much interest. The letter is quoted in its entirely just the way it was received:

Nov. 4, 1953

Dear Mr. Patchick
I hope this letter would be found in your better condition: here I, in behalf of the geology department, Seoul National University, hope to have an happy opportunity, that is, getting of your refined explanation about the educational system in the United States and the contributive history of the American Geologist to the exploitation of the petrolic field in the western America.

If you give me such a kind benefit on Nov. 9, 1953, it will be highly appreciated for the development of the geology department of our University.
Very sincerely yours

Sun Chih Moo
Chief
Geology Department
College of Liberal Arts & Sciences
Seoul National University

Needless to say, I went, lectured, and was given the special "dignitaries reception", complete with low bowing, tasteless tea, and polite hand-clapping at the conclusion of my talk. Everyone was very kind, pretending that my inadequate Korean was the epitome of fluency and accomplishment. Upon leaving, "Chief" Sun Chi Moo, with much ceremony, presented to me a very beautiful amethystine quartz crystal group (with multiple phantoms) and a fine specimen of pale blue kyanite blades. Here then, is where the story really begins. This was the beginning of my long search for the famous "mushroom" amethysts and the long blades of light blue kyanite. The account of the amethyst trip will be related in another article; this one is about kyanite collecting.

The sample was accompanied by a worm-eaten label written in almost legible English which gave the locality as follows: *"Daedŭk-ri, Bolgok-myon, Ronsan-gun, Ch'ungch'ong-namdo"*. Now here is where working in Intelligence could payoff, if you happen to be a mineral collector. I searched the bulging files for more information, hoping that the coordinates or at least the name of the mine would be given. I found nothing. Later (in June, 1954) when I was reassigned to Taejon, I carefully went through the Japanese literature and also the comprehensive report by the American survey team which made a reconnaissance of South Korea in 1946. Again, no reference was made to the kyanite from *"Ronsan-gun."* Then, in desperation, I talked to one of the Technical Assistants at the laboratory where I worked. Where Intelligence files failed, Mr. Roe, Hai Yong came through. *"Ronsan-gun"* became *Nonsan-gun,* and *"Bolgok-myon"* became *"Polgong-myon"*, etc. A simple transposition from the phoenetic Japanese to *Onmun* was all that was necessary. It turned out that the locality was only a drive of about an hour-and-a-half from Taejon!

The Unusual Lieutenant

While working in the laboratory one March afternoon, a youngish looking First Lieutenant from the Ordnance Corps walked in and introduced himself. He said he had heard about us and would appreciate a tour of our compound. When he saw my mineral collection he expressed much admiration, and asked if I had collected them myself, and if so, would I be interested sometime in taking him "on a dig"? It turned out that Lt. Thomas A. Reed was an archeologic enthusiast as well as a rabid photographer of quite some varied experience. All this in addition to his being a graduate biochemist and mathematician. I won't even mention his passion for sports-car racing.

The next Saturday I called up Lt. Reed and asked him if he had any plans for the afternoon. He asked me what I had in mind, and when I mentioned a kyanite collecting trip, he said "what is it, where is it, and when do we start?" We left that afternoon, almost a year-and-a-half later since I first heard of the locality in Seoul.

Now, the worst time to travel in Korea is during the rainy season. The next is during hot, dusty, "road repair time", generally that period when barley has been planted, but prior to harvest and subsequent preparation for rice growing. During this time the farmers generally work on the roads, mostly because they have little money, and cannot afford to meet the tax collector's demands. They work out their debt by "repairing" the roads. This consists of spreading three to five inches of cobbles and stones from local river and stream beds on the surface of the road followed by crude leveling with rakes. This is the Korean road repair system. The roads are worse repaired, than if they were left in their well-rutted but relatively hard-packed original condition. Well, Lt. Reed, who drives a Jaguar in the States, even had a difficult time with all of the sliding and drifting the Jeep persisted in doing over these "improved" roads. My stomach has finally recovered.

Meeting Haraboji-nim

Just as we approached the summit of *Ch'onho-San* (Heavenly Lake Mountain) near *Hwangnyong-ch'i* or Yellow-Peak Pass (a limonitic fault-gouge zone accounted for this descriptive name), we encountered an elderly gentleman (Plate 1) who was struggling up the steep grade. He was attired in the customary retired man's garments: a pajama-top like coat reaching below his waist, with the sleeves just covering his elbows; full, baggy trousers, resembling sweatpants (I remember the Korean word *paghee* this way), wrapped tightly about his ankles and with a low crotch drooping almost to his knees; and over the coat a vest with small pockets. All these articles were made of spotless white cotton cloth, indicating that he is in mourning for some immediate member of the family who has died during the past three years. His shoes were of rubber, like a small boat with a quaint turned-up prow. On his head he wore the characteristic but unusual headdress looking like an inverted flowerpot or a birdcage with a broad brim. Made of black horsehair, this *Yangban kahl-mohja* as it is called, is significant of a man's retirement or success.

Plate 1

Grandfather Kim posing near the village of Taejong, Korea. Note the headdress, coat, and rubber shoes.

Of course we stopped and invited him in. I greeted him in the accepted manner, taking care to use the honorific form, and was in turn greeted with the unusual startled statement: "My! You speak Korean so well!" (Quite a contrast between this sincere old gentleman and those I met over a year ago who bestowed undeserved platitudes upon me.) I apologized and remarked that I was only learning, and then asked him where he was going. *"Choooh-gee"* was his reply. This of course meant that he was going a long, long way "over there". It so happened that we were going to identically the same place: the village of Taedong. He couldn't understand why we wanted to go to Taejong-ni, his home, and questioned me further in his native tongue. I explained that I was a geologist (*Chaejilhakcha*) and was interested in collecting minerals from the mountains around his village. The man with me was my friend, an officer in the U.S. Army, but a chemist (*Hwahakcha*) who also wanted to look for minerals with me. Then he asked us where we came from, and seemed to think that Taejon was just too far away: "we couldn't have left only a little more than an hour ago!" But he agreed that the Jeep was much quicker than walking, and was quite pleased to ride in it, and in fact, he smiled broadly all the way to his village. On the way, we had to ford several streams. Old *haraboji-nim* (honored grandfather, literally) kept telling us that the water wasn't deep, and not to worry. He also pointed out the *myon*, or township office on the way, making sure that all his friends saw him riding with us. When we reached his village, a crowd of people swarmed out to greet us, and then grandfather Kim (his name) politely invited us both in for *suhl* and *yakju*. Well, neither Lt. Reed nor I drink, so I politely refused, with many thanks. Then, as if to show us his feelings were not hurt, Mr. Kim asked us where we were planning to go and if he could help us in any way. When I said *"Oorinum nanjongsokul kuangsaneh kago shipsumnida"* (we want to go to the kyanite mine), he quickly appointed a guide and instructed him to take us there. We were also told about an *"anchimon kwangsan"*, or antimony mine, nearby. But we were only interested in the kyanite at this time. (On another occasion I visited this mine without finding much of collecting interest). So off we went after much ceremonious good-bying to the "blue crystal stone" locality at *Sajong-ni*, which appropriately enough means "crystal sand village". Examination of the stream sand later proved that this sand carried quite an abundance of kyanite blades, washed down from the outcrops higher up on the hillside.

Collecting Korean Kyanite

It was only a short way to the village of *Sajong*. Here we were taken to the straw-roofed mud house of Mr. Oh, who was the local expert on Kyanite. He answered when I asked him how far it was to the locality: *"Mohlgee ansumnida. Ohbek mehter imnida."* In other words, it wasn't far, only 500 meters from his house (pointing) across the stream. I asked him for a hammer and a chisel, and when he brought these items, we set out for the *Sanchee*, or locality. Just outside the courtyard of his house, I remembered that we should take with us some sort of basket, so I proceeded to try and make known my wants to Mr. Oh. This was difficult. I didn't know the word for basket, so I tried to find something like I wanted, in order to explain that we should take something similar to it along. Then I mentioned the word *"chigi"*, which is a sort of pack frame resembling the letter "A", and more commonly called just that, an "A-frame" by the U.N. forces. Mr. Oh soon came out with one on his back without a basket, and started to leave. I had hoped he would realize that we had to have something in which to carry the minerals on the "A-frame". But no, he just couldn't seem to get the idea, until I finally found a straw basket under the porch. Then I said in a loud, clear voice: "WE-MUST-TAKE-THIS-WITH-US" (translation). Now they understood. Suddenly one of the small boys ran over and began filling the basket with kyanite boulders which were lying unnoticed in one corner

of the courtyard. It was of poor quality, so I said *"Ahjik, ahjik! Chigum kayah hamnida, Kapshida!"* (Not yet, not yet. . .we must go now. Come on, let's go!). So we finally left, with a horde of little boys trailing and running ahead.

After crossing a stone dam over the stream and winding our way across a very narrow path between a rice paddy containing an industrious farmer and his oxen plowing, we began climbing up a narrow, steep canyon leading to the locality. The country rock was a pelitic schist, highly contorted and steeply dipping. Float kyanite was evident in the stream canyon. After about a ten minutes hike, we turned up an adjoining ravine and scrambled over blocks and boulders of kyanite which had been blasted-out of the workings farther on up the slope. Over the talus slope was the prospect. Development work consisted of exposing a milky quartz vein 2½ feet wide injected parallel to the schistosity of the phyllite. Another vein of approximately the same size farther down the slope and also parallel to the bedding, contained much muscovite and paragonite mica. Here the kyanite was ferruginous and of poor quality, and accordingly, little time was spent trying to remove crystals. Back at the major outcrop, we worked without much success trying to break out specimens from the enclosing quartz matrix. The chisel steel was very brittle, and in a very short time was rendered useless, by the point flying off (Plate 2). We promised Mr. Oh we would replace it for him when we returned. Every time a few chips would break loose, everyone would shout "O.K.? O.K.? *Chohsumnikka?* (Is it good? It seems that no matter where one goes in Korea somebody knows how to say "O K."). I would reply with some slight exasperation in my voice: *"Meanhaghee man, nahpumnida"* (I'm sorry, but it's no good). Then they caught on. They would look at me, holding up a crystal fragment and say: *"Nahpuda, uh?* (No good, *huh?*). *"Neh ,kurrossumnida"* (Yes, that's right).

While I was directing the operations with our inadequate little three-inch long chisel, the Lieutenant was busy photographing everything and everybody. Once he came up to one of the older gentlemen who was talking to me and stood for a moment as if absorbed in the coversation. I knew better. I noticed the Lieutenant slyly focus with one hand while he snapped the shutter with the other not more than three feet in front of the Korean's face. "Uncle George" as Lt. Reed called him, never knew he had been "took". Lt. Reed winked at me conniving-ly and turned to record for posterity the collecting operations by the small boys on the dumps. After explaining as best as I could what kind of material I wanted them to look for, they brought back fairly close to that which I had described. Meanwhile, back at the exposure, the two workers were becoming tired and realized finally the futility of continuing without blasting. This was explained to me with much gesticulating and punctuated with "blooms" and "blams" interspersed with much laughter. I told them we might be able to get some dynamite and come back tomorrow. We would also bring a *"kkun manchee"* (a big sledge hammer) with us. They were pleased to hear this, and then all consented to pose for a group picture. The result was solemn and very formal looking. (Plate 3—That's Mr. Oh holding the broken chisel and standing behind the "A-frame"). When the picture was taken, everyone jabbered at once that he wanted a copy. I explained with difficulty, that the Lieutenant used color film, and that the film had to go to America in order to be developed (I indicated this word by a series of odd gestures with my hands). "They won't come back for one month" I said. I guess I managed to convince them. All they could manage to say now was: *"Taedanhee meahnhamnida"* (We're very sorry). They regained their spirits, however, when we started back for the village. I was disappointed with the poor collection we had made, but hoped to return again better equipped to finish the job.

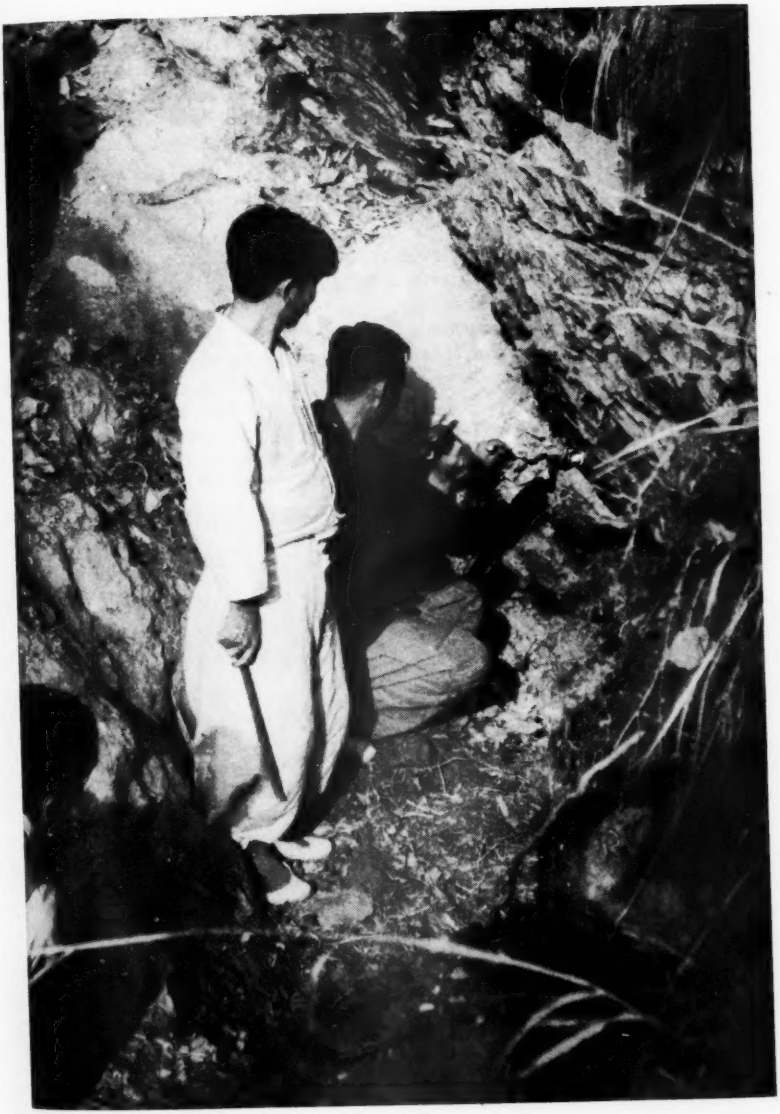

Plate 2

Kyanite collecting, Korean style. This is Mr. Oh (and "Uncle George") just before the chisel broke.

Question and Answer Time

The group had by now enlarged to about 25, mostly middle and high school boys and a few elders. They ung themselves out behind me as I scrambled down the steep, boulder-strewn ravine and jogged over the narrow trail back to the village. Lt. Reed had gone on ahead in order to place himself advantageously in a position best to record on Kodachrome the fun. Then came the questions: *"Mehsahlimnikka? Eerumun muohshimnikka? Ohdee sahsumnikka? Puinun eesumnikka?"* Translated, the excited jabbering reduced itself down to the most commonly asked questions one can except to run into while travelling in Korea today. The Koreans are extremely inquisitive, and naturally curious about the round-eyed, big-nosed (and mine is always the subject of whispered conversation) *Meguksaram* or Americans they meet. "How old are you? What is your name? Where do you live? Do you have a wife?" This last one is invariably asked me. Why, I don't know, but they always express much surprise that a fellow twenty-six years old doesn't have a wife and at least three or four children. This is commonplace in the Korean society. My answers always take them by surprise, for they are rattled off without hesitation thus creating the impression that I am a master of their language. Actually, the questions asked are *always* the same, and so a stock, polite, prelearned answer follows without difficulty. For some strange reason the Korean people think their language is the hardest one in the world for a foreigner to learn. Really it is quite simple. The written characters more so.

Plate 3

A basket of Korean kyanite, "Uncle George", Mr. Oh, and unidentified "A-frame".

Another question that I had a more difficult time answering, not because of vocabulary, but because of logic, was one put to me by a young man of my age. He wanted to know why I wasn't an officer like Lt. Reed, inasmuch as we both had equal amounts of education and opportunity to do so. You see, every College graduate in Korea automatically receives a commission into the military service. Not to be an officer when one could be so easily is to them incomprehensible. Equally so was the fact that Lt. Reed happened to be at that time my Company Commander, and to the Korean, such a close, friendly relationship between superior and enlisted man was unheard of. Particularly since they saw the Lieutenant driving *me* in the Jeep. We decided that the whole situation was practically unexplainable, and dismissed the question with the statement that "this is American Democracy at work". This was to them, a satisfactory answer, for they turned to other questions.

When the young farmer boys had a difficult time with the pronunciation of my name, I produced a tri-lingual name card. This was passed around and around with much *"Yahh"* ing (equivalent to our "Oh's" and "Ahha's) and created quite an impression. In Korea, almost everyone in business has a name card. Also, without exception, adult male Koreans have what they call a *tohjang,* or engraved stamp (usually of quartz or plastic) which they affix their peculiar seal to letters and documents. Nothing is official without this seal. For a *Meguk-saram* to be sporting a fancy smoky-rutillated quartz *tohjang* with *Onmun-Hanmun* characters spelling out his name and title, is indeed too much for them to fathom. But if you want to be a successful mineral collector, following a country's customs certainly can be rewarding.

We joked about my not having a wife for quite a while. Koreans have a very good sense of humor and a quick wit. They were amused at my saying that "I'm too busy studying geology", and "they talk to much". , .this is very, very funny extremely reserved and quiet, especially to a Korean. Their women, you see, are when strangers are present. And they will never speak to a man in public unless properly and formally introduced to him. They are really subservient to the male.

Crossing back over the stone dam was uneventful, except for a show I made for the villagers watching our arrival by pretending to be off balance (much to their amusement). At our parked Jeep we were met by cries of *"Yogee, yogee! Nanjongsok kyulchung mahnsumnida! Mahnee eesoh! Bhalli! Ohsayoh"*. Now this is just what every collector wants to hear when he returns from a long, hot climb which has been relatively unfruitful: "Here! We've got many kyanite crystals here! Hurry, Hurry, come on, there's a lot!" And there were.

Kyanite by the Rice Bag

Right next to the parked Jeep! Large boulders of beautiful radiating blue kyanite in long, slender blades lay under and adjacent to our vehicle, unnoticed until the laughing children and smiling elders pointed with obvious pride to their timely discovery which we had come so far to find. And until now, without much success. But our luck had changed at last.

The Lieutenant wanted to be first, and after the ever narrowing circle of excited children were pushed back a safe distance, he bashed and broke the colored rock until the chips flew and the sweat came. Some specimens showed drusy cellular pyrite filling spaces between blades; others showed deep colored cordierite blobs nestled between shiny biotite crystals and the vitreous quartz. Now even the archeologist "on a dig" was happy.

An old "mama-san" brought several woven straw rice bags which we filled to capacity: about 300 pounds worth, I estimated. It took four strong school boys to lift each one up and into the back of the Jeep.

We thanked everybody, paid our guide, paid for the broken chisel, promised to send the pictures, and fondly said *"Anyonghee kishipshio"* to the friendly people of Sajong-ni. We never saw them again. But this was a collecting adventure that I'll long remember of the many I've experienced.

THE DEEP FREEZE

By Paul M. Tilden, Warner, New Hampshire

Photos by Paul Tilden

Had this article been written seventy-five years ago, it might have been entitled: "The Deep Freeze; or, What the Ice Left for Mineral Collectors", with several sub-titles and perhaps a small wood engraving of a polar bear. Today, titles should be brief, eye-arresting and meaningless.

But to get on with our story. Some twenty-five thousand years ago, a slow-warming climate forced the last or Wisconsin ice sheet north across the face of the New England states, leaving in its wake an enormous amount of debris scattered about in a rather random fashion. And within these glacial rubbish heaps of boulders, gravel, sand and clay the inquisitive searcher can find enough material to form a collection in its own right.

There is a story to the effect that the retreat of the Wisconsin ice sheet was only temporary—that some day it will be back again with another load of boulders to dump on the already stone-studded acres of the rural New Englander. Perhaps the story was invented by a disgusted New Hampshire farmer getting ready to leave for the Middle West. Scientists lead us to think, however, that the joke may not be so far-fetched, after all. They point out that there is some evidence we may be living at the present time on one leg of an interglacial period. Just which leg it may be, is a topic for disagreement; but some day in the remote future may again see New England covered a mile deep with ice.

What caused this slowly-creeping mass of ice to descend from the north? Students of glaciology have proposed a number of ingenious theories of explanation, most of which are so deeply bound up in astronomy and mathematics that they are pretty much wasted on the humble citizen with the mineral hammer. For some reason, there was an enormous and continu-

Why did so many farmers leave New England? A glacial rock-dump near the entrance to Blackwood Campground, Acadia National Park illustrates one of the reasons.

cus accumulation of snow in the Hudson Bay and Labrador regions of Canada. The snow, turning to ice under its own constantly increasing weight, flowed slowly away from its centers somewhat as a heaped-up mass of cold tar might creep outward from its highest point.

Long before the arrival of the main body of ice, conditions in New England were undoubtedly favorable to its reception; the climate here probably resembled that of present day northern Alaska, as a result of thousands of years of slowly declining annual mean temperatures. We can safely assume that no boldly-advancing cliff of ice swept the countryside in Hollywood scenario style.

Over New England, the ice sheet moved generally in a southeasterly direction. When you are afield for minerals in this area, take a little time out and visit the summit of some rock-capped hill or mountain. The chances are good that you will find at least one of the evidences of the great ice sheet, and perhaps more. On the smoothed surface of a summit, the bedrock will very likely be furrowed and scratched as though an enormous harrow had been passed across it—which is indeed exactly what happened. The glacial ice was the harrow, and the stones, boulders and grit frozen fast in the bottom of the mass were the teeth of the machine.

If the exposure happens to be of a very hard but rather brittle rock—quartzite, perhaps—there may be additional evidence of the tremendous weight and slowly applied force of the creeping ice cover. Examine the rock surface carefully, and you may find a series of new-moon shaped cracks following each other at intervals. These ice-caused cracks are called "chatter marks"; and the limbs of the little moons always point in the direction of the ice flow.

On the more prominent and easily accessible peaks, you will probably also find a multitude of initials and dates engraved, with varying degrees of artistry, in the bedrock. These were not left by the great ice sheet, but by people whom Dr.

Grooved and embossed ledges near the summit of Mt. Kearsarge, 3000-foot monadnock in Central New Hampshire. The bedrock here is a tough, upturned andalusite-sillimanite schist, ideally suited to receiving and retaining glacial markings.

Chatter-marking is clearly shown on this piece of quartzite near Seawall Campground, Acadia National Park. The "horns" of the moon-shaped cracks point in the direction of the ice movement.

Charles Jackson, early New Hampshire geologist, referred to rather acidly as "scores of the most unimportant persons".

Of course, collecting glacial grooves and scratches in bedrock may prove a somewhat disappointing pastime, unless you happen to be carrying a good camera. And likewise, the ice-transported boulders that dot our New England landscape in such profusion offer something of a challenge to the ordinary collector. Boulders weighing several hundreds of tons are commonplace; and there is a fair sprinkling of giants that bulk a thousand tons or more—hardly living room or basement collection items.

But in the piles of glacial drift that geologists know as kames, eskers, and drumlins, there are specimens to fit the space requirements of every collection. The glacial drift is found everywhere, save in the valley bottoms where river water has since reworked and redeposited the stones and gravel.

A practical introduction to glacial rock collecting might well be a visit to some upland gravel pit. If the location is a fortunate one, the collector will find pebbles, cobbles, and boulders of all sizes and of many types of rock. There will be stones that were faceted as they were dragged along beneath the ice; stones with an end or side worn off smoothly; stones cut into wedge-like shapes or other geometrical forms, and stones rounded by the rush and clatter of some sub-glacial torrent of ice-water.

To make the identification of ice-worked stones more of a certainty, there should be at least a trace of scratching on the specimen. Perhaps there will be just a few scratches running across a nearly-plane surface. Or, there may be several sets of scratches crossing each other, ac-

A huge glacial "erratic" of coarse granite adorns a tranquil pasture in East Sutton, New Hampshire. Fully one-third of this giant is concealed beneath the soil.

Two specimens from Grafton, New Hampshire illustrate the rock forms that were produced beneath the ice. Specimen on left shows a nearly plane surface ground at right angles to the cleavage of the sandy schist. Wedge-shaped stone at right is serpentine, covered by nicks, scratches and scars.

cording to how the specimen was treated beneath the ice. There should be little chips missing around the edges of the ice-worn facets, particularly on specimens of harder materials such as quartz, compact schists, quartzites and the like. These chips were flaked off under pressure very much as chips might be flaked off the edges of an arrowhead by an Indian.

In evaluating these mistreated stones, it should be recalled that where the specimen is composed of a metamorphic rock it may split easily along a plane of cleavage. Make sure you are not getting a specimen split by the wheels of a dump truck, rather than the continental ice sheet. As your eye becomes practiced, the frauds in your collection will be quickly recognized and weeded out.

An old mineral collector once said that successful collecting consists mostly of the two L's—luck and legwork. To put together a collection of these mementoes of the Deep Freeze you must, of course, either live north of the line of maximum ice advance, or have the means of getting there. Once in the field, you will need only a minimum of the old collector's luck and legwork—the material is everywhere.

A Simple Test For Franklin, N. J., Prehnite

By John S. Albanese
P. O. Box 221, Union, N. J.

Many collectors of Franklin, N. J., minerals are not familiar with the prehnite from that locality. Because of its intimate association with other minerals, it easily escapes detection. The only other Franklin, N. J., mineral which closely resembles it is margarosanite.

Prehnite is an acid orthosilicate of calcium and aluminum, with aluminum oxide roughly 22% and calcium oxide about 27%. Some traces of lead, potassium, sodium and manganese are present, along with about 5% of water. The mineral is never found pure, as it is intimately mixed with pectolite. It is found in yellowish-white coarse lamellar to platy aggregates, often showing good cleavage and sometimes a pearly to dull lustre on cleavage surfaces. It is usually found associated with granular brown garnet and biotite. When associated with pectolite, the latter mineral often shows an orange color under the short wave u. v. lamp.

Margarosanite is a silicate of lead and calcium, with lead oxide about 43% and calcium oxide about 23%, with traces of barium, magnesium and manganese oxides. It is found in lamellar masses composed of thin colorless plates with a pearly lustre on cleavage surfaces. Often it has a faint pinkish color due to included hancockite. Under the short wave lamp it shows a faint violet fluorescence. It is usually associated with nasonite, for which it has an affinity, and granular brown garnet, hancockite, biotite, hedyphane and nearly transparent green willemite.

To distinguish margarosanite from prehnite, a few simple tests are necessary. With the sharp tip of a pocket knife, remove some of the plates, or enough of the platy material as can be piled up on the end of the knife blade. Holding a magnifying glass with one hand while using the knife will help facilitate removing the plates without mixture with associated minerals. Crush this material in an agate mortar, until a very fine powder is obtained. If an agate mortar is not available, use an enameled egg cup with the rounded bottom of a test tube (glass or pyrex).

Place as much of this fine powder as can be held on the tip of the knife blade in a test tube. Then add about four eye-droppers full (about a level teaspoon) of concentrated nitric acid and about four teaspoons-full of pure water. Do not use teaspoon for measuring the acid. Hold the tube over a gas flame (or alcohol lamp) using a pair of tongs to hold the tube. Heat the solution until the powder is completely dissolved. When the solution is cold, add a drop or two of hydrochloric acid. If an appreciable amount of lead is present in the solution, a white heavy precipitate of lead chloride will be thrown down, in which case, the mineral being tested is margarosanite. Prehnite treated as above will not precipitate a white curdy lead chloride.

Rockville Crushed Stone Quarry

by John O. Griesbach
3957 Wendy Court, Wheaton, Silver Spring, Md.

Introduction:

Test pits reported to me by a friend employed at the U. S. Geological Survey Feb.-Mar., 1955. First visit to site near Hunting Hill, Montgomery County, Md., during early construction stages of crushing plant sometime in April, 1955. Few specimens of diopside found.

Re-visited early in May — already a good-sized hole — crusher in operation. Two dikes of unusual pyroxenite-garnetite rock noted in floor and walls of quarry. Country-rock a moderately fine to coarse grained pyroxenite of mottled green color. First specimens of dike-rock taken, showed large euhedral and subhedral crystallized aggregates of a grass-to jade-green partly chatoyant mineral at first mis-identified in the field as enstatite. Some early examiners of this mineral thought it to be a serpentine pseudomorph after a pyroxene or amphibole, but an x-ray diffraction and complete optical examination by Mr. Anthony Bonanno, (Pres. Dist. of Col. Min. Soc. 1955.) proved it to be diopside, with the matrix mainly of andradite garnet. One of the chlorite family of minerals was present also, but only in very minor amounts.

General geology-mineralogy:

The first samples obtained were given out by myself at the May meeting of the District of Columbia Mineralogical Society and word soon spread to the Lapidary Society that I had a new cutting material. After two trips to the quarry within a few days of one another, I learned that at least 10 of the D. C. clubs members had found or had been told where the quarry was and at least 3 or 4 were intending to "commercialize" my "find" for their own benefit. Aside from myself, only 2 other persons of this early group are known to have asked permission of the operation manager to collect on the site.

During the period between late May and early June (1955) I inspected the quarry about twice a week. This resulted in a collection of an excellent suite of seam and vein opal, variety common opal, in several colors, dendritic, white, pink, green, brown, red, and nearly black. Some was obviously a replacement or alteration product from the fine grained pyroxenite rock, and small amounts partly replacing very thin seams of chrysotile asbestos were found. Most of this opal is probably the result of colloidal silica having been leached from the pyroxenite rock and redeposited in joints and fractures as a silica gel. It had nearly filled all the open joint spaces in the pyroxenite in one very small area in the southwestern corner of the quarry and is no longer available. Being concentrated in only one part of the rock mass, its presence was not readily noticed by many collectors nor has its presence in the quarry in so small a percentage been harmful to treatment and subsequent use of the rock. An unidentified clay mineral resembling halloysite occurred as small masses in some of the porous opal. Some of the opal has been cut and worked up into nice cabochons by a few of the local lapidists, but the percentage of cutting-quality material must run much less than 1%. I have perhaps 10 pounds of this, and about (100) pounds of fair to good specimen grade suitable for school laboratory use and as general cabinet material. I have been told that this is the second occurrence of this mineral in fairly large quantity in Maryland, but cannot vouch for this fact. In some of the opal are masses of partly decomposed, altered, and replaced diopside, and in other, scarce pieces some direct replacement of chrysotile is noted with the opal retaining the chatoyancy of that mineral.

At this date only 6 specimens of the pyroxenite-garnetite rock are known to have been found which have fair to good andradite xls. The andradite occurs in a wide range of color however - gray, yellow, buff, white, brown, and red-brown to nearly brick-red. Some of the more

solid massive material is of sufficient hardness and solidity to take a good polish and would make nice book-ends or bulk polished items. A few pieces of good solid color in the deeper shades make unusual cabochons, and especially when small masses of green diopside appear in it.

The dike-rock, being principally garnet and pyroxene should probably be classified as a tactite. Some interesting and valuable mineralization often occurs in tactites so it will be interesting to watch the exposure in depth here. It seems though that the diopside is running lower in percentage of the rock as greater depths are being reached.

The chlorite—first noted in x-ray diffraction study—appears to be clinochlore. I have one very good specimen with a large "book" of deep emerald green color, and a mass of small excellent crystals found in a 2 by 3 inch vug. It appears that some diopside shows dark green plates of chlorite developed in parallel and intergrown parallel to its best cleavage plane. These occurrences are seldom seen in the material—I have only two such specimens. Fair tabular xls of chlorite were noted with the few xld garnet specimens found.

Some well-formed xls of dark blackish-green mineral appeared in a very narrow dike in the southeastern corner of the quarry during June & July, 1955, as a small extension was made in that direction. These have proven to be mainly chlorite, as an alteration of diopside, and probably partly some of the other end member of the diopside-series, hedenbergite. They show better xl structure than the diopside but are slightly less hard hence break more easily. Matrix specimens may be still available.

A very few fair specimens of chrysotile asbestos have been found, and also reported by two other collectors. The chrysotile I have occurs as thin seams less than ¼" thick, in a partially serpentinized pyroxenite. The color is similar to most of the commercial material from the Thetford Mines area of Quebec.

Serpentine of good green color, partly translucent, was noted by myself and one or two other collectors in a schistose facies of the pyroxenite which had been partly altered. It is doubtful if any of gem or cutting quality has been found.

Some serpentine occurs on slickenside surfaces and is of various colors, green, red, brown, and maroon—all having a high polish. It has been reported that some thin white to pink films in some joints and as fracture fillings is the serpentine family member deweylite, but I doubt if this has been proven.

One mineral of interest which has been found in only one part of the quarry—long since removed to the crushers—was the amphibole, var. anthophyllite. It occurred in a seam ½ inch to 6 inches in thickness along the face of a narrow zone which had been very much contorted and shattered by local flexure and faulting. I obtained about 350 pounds of better than average quality specimens for trading and school-laboratory use, and one other collector got out about 50-100 pounds for the same purposes None has been noted since.

Tremolite, as radiated aggregates, white to green, was found, with talc and asbestoform tremolite in one small section of the quarry near the hedenbergite and chlorite dike.

An extremely localized occurrence of a pearly white to buff and pink mica was found near the tremolite and chlorite in the shallow southeastern corner of the quarry. This mica resembles margarite but it has not been definitely identified. Specimens were forwarded to the Natural History Society of Maryland for possible identification.

Minute octahedra of magnetite occur in the serpentine associated with schistose sections of the pyroxenite.

Summary:

The minerals *known* to occur are:

Diopside, andradite, anthophyllite, tremolite, talc, serpentine, chlorite, chrysotile, common opal, hyalite opal, hematite, pyrolusite (as dendrite and in denritic opal), and magnetite.

Not positively identified but believed to have been recognized:

Halloysite, margarite, deweylite, chrysocolla, malachite, chromite, quartz, hedenbergite and an unidentified feldspar mineral.

Editor's Note: In the Nov.-Dec. 1955 issue of R&M, p. 587, mention was made of some interesting minerals being found by John O. Griesbach at a new locality near Travilah, Montgomery Co., Md. At our request, Mr. Griesbach prepared for us the above article on the new locality which we now learn is nearer Hunting Hill than Travilah.

Hunting Gold In Maine

By Ruth H. Wentworth, 135 Maine Ave., Portland, Me.

Yes, there is gold in Maine. On July 31, 1955, The Maine Mineralogical and Geological Society with Ralph Wentworth as president, went to Byron, Maine, to "scoop" up some gold. We stopped at Joe's Swift River Camps, where he directed us to the Swift River on his property. There, for $1.00 each, we were priviledged to hunt gold. There was such a large group that only a few could use the gold pans.

The river was from 1 to 1½ feet deep, because of dry weather, so that the fortunate ones waded in, scooped up sand and washed it in the pans. Quite a number found small flakes of gold which they put in small bottles of water for safe keeping.

Some of the men sluiced for gold. The sluiceway was about 5 ft. long, having sides and being higher at one end with partitions along the bottom. They put the sluiceway into the river so that the current washed through it. Then they put big boulders along the sides of it to make a heavier current. Next, they pulled plants along the river bank, washing the sand from these into the sluiceway. The current washed all of the lighter material away, leaving only the heaver material, which later they put into gold pans for further washing. They gathered sand this way for about 2 hours. They found several gold flakes for the group and also poison ivy for themselves.

Much of the sand was garnet sand. Some of us who had no pans, gathered garnet sand and hunted for jaspers in the river bed. We also purchased gold flakes at a nearby gift shop. Soon after our group left, some small pieces of gold were found that were worth several dollars.

This gold was said to have been deposited here by glaciers and can be found in the fields near the river also, digging up the dirt and panning it.

The river bed at this point coursed its way through a soft tan layered rock showing queer formations and pot holes. There were phyllite boulders here and there with garnets and staurolite crystals throughout these. Downstream a short way was a large formation of ledge where the river had formed interesting pot holes. The boys were having a beautiful time swimming here.

By making arrangements with Mr. White of Joe's Swift River Camps and planning to be there when the river is low, people are almost sure to find gold. We are very proud of our small pieces of gold which my husband worked so hard to get. The only possible disappointed might be that we didn't scoop the gold, only the sand.

Editor's Note:—Byron, on the Swift River in Oxford County, is Maine's famous gold locality. The gold is found as tiny flakes in the sands of the river.

GENERAL PETROLOGY OF THE BUCARAMANGA AREA, DEPT. SANTANDER, COLOMBIA

W. T. O'Gara, Dept. Petroleos
University Industrial Santander, Bucaramanga, Colombia, S.A.

The general area in the vicinity of the city of Bucaramanga has much in the way of petrographic material to interest the geologist and petrographer. It lies between the demarcation of an enormous sedimentary complex of rocks ranging from middle and upper Paleozoic to late Tertiary; and a massif of igneous and metamorphic rocks of Pre-Cambrian to early Paleozoic.

This region is bordered roughly on the north by the Rio Lebrija and on the south by the Rio Sogamoso. Eastward lies the meseta or "Paramo" of the igneo-metamorphic complex; and westward the escarpment of the Triassic—lower Cretaceous Giron sandstone series.

The eastern edge of the El Angulo plateau of Giron sandstone is marked by a great fault escarpment which is 500 meters high at the town of Giron; from which the formational name is derived, and continues to the southward marking the Suarez fault past the towns of Zapatoca and Galan, where there are enormous sheer cliffs. To the east of it are flat-lying sediments. These are Cretaceous in the broader part of the area around Barechara and San Gil, but near Bucaramanga the Cretaceous has been removed and the sediments consist of great, flat-topped mesas of Giron separated by canyons. The eastern edge is marked by the Santander fault which turns the Giron series up sharply in great drag folds, exposing the basement complex. North of Bucaramanga the Suarez fault seems to run into the Santander fault and the Bucaramanga basin area seems to disappear.

East of the Santander fault, the main range of the Cordillera Oriental rises steeply. Deep valleys are present along the western edge but the smaller streams have not penetrated very far back into the range, and its central part is characterized by a broad dissected plateau and a series of "Paramos" at an elevation of 4000 meters.

The Basement Complex

Between Bucaramanga and Mutiscua to the east, there is a complex of gneisses, intruded by granites and associated with the latter are pegmatites which have penetrated the gneiss. and dark porphyry dikes which cut both of still later age are numerouse quartz veins which are auriferous at the town of California and at Vetas, to the northeast of Bucaramanga. South of Piedescuesta along the Rio Chichamocha (Sogamoso) and east of San Gil are large masses of light colored porphyries. Their relations to the granites has not been worked out. In several places they are seen to cut a sedimentary series which may be Paleozoic in age. The granites may be a deeper phase of the same rock. North of Aratoca in the gorge of the Rio Sogamoso is found a mica schist derived from a sedimentary series, similiar intruded schists are found between Mogotes and Soata. Smaller outcrops of schists are seen south of Piedescuesta and at Puente de Tierra, in each case intruded by the light porphyries. It is not known if the schists are the equivalent of the fossiliferous Paleozoic of the vicinity, intruded and metamorphosed, or whether it is part of an older series. Although no fossils were found in it, there is a resemblance to the fossiliferous Paleozoic schists at Quetame, east of Bogota. South of Piedescuesta the schists are almost certainly separated from the Giron by a fault. At Puente de Tierra the true Paleozoics are found on either side of the schists and porphyries, and it looks like a simple case of intrusion and contact metamorphism.

A number of distinctive rock types must exist in the igneo-metamorphic complex, as indicated by the variety of rocks represented in the stream beds that come down from the Cordillera Oriental. The pegmatites ought to be excellent areas for the collector who has the stamina and the time to explore the rough ter-

rain and search out the outcrops of these dikes. The mountains are totally covered by a thick growth of tropical vegetation, and the slopes are very steep. Unfortunately because of arthritis the author was not able to travel far afield and so had to collect in the rock piles brought to the city for construction purposes. From the float and other specimens seen these pegmatites are microcline, quartz-biotite occurrences which ought to contain other minerals of interest. Radioactive minerals have been reported from the granitic area, although nothing is yet known about the locations from which they were obtained. Students at the university have brought the author specimens from a locality called Mesa de Los Santos, that indicate a pegmatite dike which may be of collecting interest. A projected field trip is indicated for that locality. Acidic and intermediate type igneous rocks seem to be most common, with the metamorphics second. There are numerous gran-

ites, and hornblende-biotite diorites, with various schists and gneisses as well.

The schists and gneisses, especially those of predominant hornblende constitution, which have been subjected to a strong dinamo-themal metamorphism, have prominent "Lit-par-lit" injections of epidote parallel to the schistocity. Some fragments of light-colored feldspars of the microcline variety, containing cavities with epidote and a black metallic which is possibly columbite or a mineral of similiar type, have been found sparingly.

Mining Activities in the Department of Santander

This department possesses various areas in which ore minerals have been exploited, and undoubtedly valuable deposits exist which have been poorly explored because of the general apathy of the residents of the region toward labor.

The principal ore mineral exploited is gold, which occurs in the municipalities of Bucaramanga, Giron, California, Lebrija and Simacota. The author had occasion to accompany some of his students to the mines near the town of California, situated 45 kilometers north-east of Bucaramanga, on the Rio Surata. An affluent of the Rio Surata cuts back into the central massif exposing the mineralized area. The structural condition seems to be a schist complex of Pre-cambrian or early Paleozoic age, overlain by a series of red, carboniferous or Permian sediments, which in their turn were covered by Cretaceous sediments. All are folded and fau'ted; and seem to have been injected or intruded by diorites, and lastly by pegmatites and mineralizing solutions of great intensity.

The area visited appears to have been an upwelling or extrusion of a feldspar-rich andesitic lava, or similar volcanic manifestation, which at a subsequent date was saturated with hydrothermal solutions of silica and pyrite, which silicified large areas and lastly filled the cracks and interstices, bringing in gold, some silver, copper and lead.

Free gold occurs in stringers, and in places is found in cellular quartz with minute crystals, in cavities in a dense gray amorphous quartz veining. The mines are rudimentary and antiquated and the mineralized rock is transported in carts to the mills of California type, activated by hydraulic power from the stream near the mines. There is a system of concentrators and classifiers which accumulate the concentrate, which is predominantly pyrites and chalcopyrites. A cyaniding process is used to extract the gold values from this concentrate. In gold production Santander is eighth in the nation having produced in 1948 4680 troy ounces of the metal; but this has diminished to 2,272 troy ounces in 1952.

Because of its mountainous character, the author wasn't able to explore the area very thoroughly for lack of transportation and time; and other mineral occurrences in the area were not visited. Other minerals than gold exist such as lead and copper, because among the alluvial boulders of the swift moving mountain stream were noticed large lumps of black copper stained float cobbles, which proved to be chalcocite. The natives say that Anaconda sent engineers to examine the area at some time in the past. Some small occurrences of galena were noted in quartz. Copper has been found also at Malaga, San Gil, and at Velez. Iron ores are known at Velez, Socorro, Lebrija and San Vicente. Lead is reported from Aquada, Malaga, San Gil, and Socorro. Gypsum deposits are numerous in the sedimentary series, and the Paleozoic limestone and shale series is exploited in the vicinity of Bucaramanga for cement manufacture. Salt is known to exist near Malaga and Guaca. Coal of medium quality occurs at Chic.

Most important of the natural resources of the department are the vast stores of petroleum in the famous Demares concession situated in the Magdalena Valley along the Magdalena River. Although not in the Bucaramanga area, this resource must be mentioned.

The known minerals of the area are as follows: quartz, barite, calcite, chalcocite, galena, sphalerite, siderite, gold hematitie, limonite, sulfer, coal and silver.

WORLD NEWS ON Mineral Occurrences

ITEMS ON NEW FINDS ARE DESIRED
PLEASE SEND THEM IN.

ALABAMA—Galena occurs in limestone 5 miles west of Jacksonville in Calhoun Co., Ala. It has been mined.

ARIZONA—A one inch, deep black basanite pebble has been received from Gene C. Falck, 3522 E. Van Buren, Phoenix, Ariz.

"These pebbles are from the main Post, Yuma Testing Station, Yuma (Yuma Co.), Ariz.

"At Yuma Test Station, I found also some samples of petrified wood. The material at the Station (specifically the area near the main post area) is, for the most part, unsuited for cutting as it is very porous and only small areas on the specimen will polish; on the other hand a few pieces have been found which are highly jasperized in variegated reds and violets. Unfortunately the Post is not open to the general public as many collecters would also be interested in the many small agate and jasper specimens occurring there. The Military Police have had considerable trouble with prospectors on the Post territory which covers most of Yuma County, Arizona, and a small area in California."—letter dated Nov. 26, 1955, from Mr. Falck.

ARKANSAS—A most interesting illustrated 4-page brochure on the Crater of Diamonds near Murfreesboro, Pike Co., Ark., has been recently released by the Crater of Diamonds, Murfreesboro, Ark. The Crater of Diamonds is an abandoned diamond mine (the only diamond mine in the U. S.) that has been opened up as a tourist attraction. The brochure tells us the following fascinating facts regarding Crater of Diamonds:

1. The only spot in North America where genuine diamonds are being found in their Volcanic Matrix.
2. Since the first diamond was discovered in 1906 by John Huddleston, more than 100,000 diamonds have been re-recovered from this Crater.
3. First diamond washing plant was erected in 1914 and operated until 1919 when plant was destroyed by incendiary fire.
4. More than 20,000 diamonds from this Crater have been cut into gems.
5. Industrial diamonds tested by Ford Motor Co. prove superior to any other diamonds.
6. Crater of Diamonds guests are given any diamond they find absolutely FREE up to 5 carats in weight. Over 5 carats a royalty of 25% of its appraised value is paid to Crater of Diamonds.
7. Untold millions of diamonds remain in this huge reservoir of nature.
8. It's fun and thrilling to pick up a diamond on surface of Crater.
9. Join the Finders Keepers Club by finding a diamond. Over 500 members to date.

Admission—$1.50 for adults over 12 years, children accompanied by parents free. Open year round seven days a week.

Mr. Ken Gibbons (one of our subscribers), of St. Louis, Mo., is the diamond-finding champion of Crater of Diamonds. Out of 21 trips to the Crater, Mr. Gibbons has found 23 diamonds.

CALIFORNIA—R. A. Richards, Box 44, Morristown, Ariz., in his letter dated Jan. 30, 1956, sends in the following item, plus a clipping:

"Sending along a clipping regarding jade deposits in (Monterey County) California, which I thought you might want to slip in somewhere. Should be of interest to Rockhounds, Gem Cutters, etc. Perhaps some directions for getting into this area would be in line?—just in case. Taking HiWay 101 from Los Angeles, Calif., travel northward to a point 23 miles north of Paso Robles—turn-off point is about 3 miles after passing a small place called Bradley. Turn to your left, if going northward, it will be about 25 miles from turn-off point to Military Res. Bldgs. This is paved road—there are several roads turning off—first one will be some 9 miles out, and will take off to your left—you keep straight ahead. You continue straight ahead till just before reaching the Town of Jolon. Immediately before reaching Jolon, take the left turn. . . within 3 or 4 miles you will see road (paved) turning left. . .this leads you to Offices of the Military. . .in fact, you are, practically there when you arrive at this turning point. As stated in the clipping, better write Post Commander a couple of days ahead, so you won't be held up.

"The clipping is from TELEGRAM - TRIBUNE, San Luis Obispo, Calif."

MOVE TO SAVE LIGGETT JADE DEPOSITS

FORT ORD, Calif., Dec. 14. — Recent exploitation of the jade deposits on the Hunter Liggett military reservation has necessitated certain restrictions on removal of the semi-precious stone from the reservation, according to Colonel Harry A. Welsch, deputy post commander of the installation. The restrictions are designed to conserve the stone for removal by legitimate collectors.

Over a period of months, several commercial organizations have removed the stone from the reservation without authorization and have utilized methods of excavation which endanger the value of the remaining jade. The firms have been blasting the deposits at Jade Cove and Willow Creek with dynamite.

Jade, a very rare and valuable stone, is uncommon to the United States. The deposits on Hunter Liggett military reservation are some of the very few found on the west coast.

Collectors who desire to explore the jade deposits at Jade Cove and Willow Creek are asked to write the commanding officer of Hunter Liggett military reservation, Fort Ord, Calif., several days in advance of the proposed trip. Written permission will be granted to approved parties.

"Since great damage has been done to some of the deposits, permission must be given only to authorized persons who are familiar with excavation of jade to conserve it for the future," said Colonel Welsch.

COLORADO—The following item, dated May 5, 1956, was sent in by Alan Jones, 522 Terry St., Longmont, Colo.:

"In 1952, a scout troop was stalking some deer when they found a pegmatite outcropping full of biolite xls. The locality is on May's Ranch, somewhere on Moose Mt. (Mt. Olympus topographic quadrangle), 7 miles from Lyons (Boulder Co.), Colo., on Colo. hi-way 66. I can't find the same place now, but the xls were perfect, apparently pseudo-rhombohedral, averaging 1".

"Last summer, at the Longmont dam, about 4 miles from Lyons on Colo. 66, in the same type of occurrence I found muscovite xls of the same habit as the biotite. Apparently the pegmatite is the same, only the muscovite xls are about 1½".

CONNECTICUT — The following item, on some minerals of Middlesex County, Conn., was sent in by Richard Schooner, P. O. Box 215, East Hampton, Conn.

"Several months ago, I told you of discovering brownish idocrase crystals up to several inches in length at the Gillette Quarry. They were found in a mixture of quartz, diopside and actinolite, associated with colorless fluorite, tiny crystals of orange sphene, and irregular spots of scheelite. I think you may be interested to learn that Miss Mary Mrose, of the U.S. Geological Survey, recently con-

firmed the identity of this idocrase by x-ray studies in Washington.

"Miss Mrose also tested the black mineral which accompanies pink fluorite in the second big railroad cut to the east of East Hampton center. You probably recall having visited the locality many years ago; in fact you wrote an article about it (A chlorophane occurrence near East Hampton, Conn., pp. 376-377, by Peter Zodac, Nov. 1940, R & M). You thought that the black crystals might be staurolite. Later, after seeing a very old reference on the occurrence of ilvaite in East Hampton, I concluded that they were that. Miss Mrose found that the mineral gives the same x-ray pattern as allanite—an exceptionally sharp pattern, as a matter of record. The mineral is not particularly radioactive, so perhaps it is nearly pure. It is rather common at one spot, but the wall of the cut is composed of exceedingly tough pegmatite. Massive material also occurs.

"X-ray studies of the altered triplite from the local Swanson Mine showed that the little tabular crystals which I regarded as bermanite are actually hureaulite. The triplite was also confirmed, though there was no reasonable doubt concerning it. Several other interesting alteration products remain to be identified. One is a green mineral with a foliated structure, resembling chlorite. It should be close to dickinsonite."

DELAWARE—Serpentine of various shades of green is said to occur about 6 miles northeast from Wilmington, New Castle Co., Del.

FLORIDA — A handsome specimen consisting of grayish sparkling drusy quartz xls in a large cavity of grayish chert was sent in by Howard B. Graves, Jr., 826 S. Ingraham Ave., Lakeland, Fla.

"Comes from west of Ocala, Marion Co., Fla."—on label.

GEORGIA—The following note on garnets from Coweta County, Ga., appeared on p. 9 of GEORGIA MINERAL NEWSLETTER, Spring 1956, published quarterly by the Georgia Geological Survey, (Dr. A. S. Furcron, Editor, 19 Hunter St., Atlanta, Ga.).

"On December 7, Mr. Harvey Neill, Senoia, Route 2, (Georgia), brought in a number of garnets up to 2" in diameter which he says are common on his farm. These are iron garnets and the specimens observed usually show internal fractures but in the case of the larger ones the garnets are quite fresh and unoxidized. Mr. Neill's place is known as the old John P. Morgan place about a mile northwest of Senoia and reached by means of a soil road.—A. S. F."

IDAHO—In 1953, "Star Garnet and Opal from Idaho—The Gem State", a 16-page publication was issued by C. C Lame, 206 - 14th Ave., Lewiston, Idaho. In this interesting publication we read that the finest star garnets on the American Continent are found in Idaho. One good locality for star garnets is Purdue Creek in the vicinity of Bovill and Clarkia, where the gemstone is found as red pebbles in the streambed.

ILLINOIS—Kenneth Vaughn, 311 E. Central Blvd., Kewanee, Ill., has sent in a number of fossils, some of which are small, dark gray crinoid stems. These fossils all come from a strip mine (coal) in Henry County, Ill.

"They are all from a strip mine, one of many that frequent the landscape in this county. This particular strip mine lies between Annawan and Atkinson on U.S. Route 6. The area from which the specimens were taken lies south of the highway. All the fossils are of Mississippian age.

"I would be glad to exchange these fossils for other specimens."—on note with fossils.

INDIANA—Harold S. Johansen, RR 1, Box 266, Fortville, Ind., works in a sand and gravel pit in Hamilton Co., Ind., near Fortville which is in Hancock Co. He sent us a number of pebbles from the pit one of which is a small, brownish silicious oolite (quartz). This oolite consists of brown "eyes" in a whitish background; it should take a beautiful polish.

IOWA--Michael Papcun, RR 1, Melrose, Iowa, has sent in an interesting specimen—a colorless, platy barite mass with a pinkish tinge, coating colorless calcite xls and all on dark gray limestone.

"Found at a coal strip mine about 5 miles southwest of Monroe, Iowa, in Marion County."—on label.

KANSAS—Walter Brannan, Idana, Clay Co., Kans., has found a number of interesting dark gray chalcedony pebbles around his town.

KENTUCKY—Golden calcite xls in brown limestone were found around Fort Knox, Hardin Co., Ky., by Sgt. Bill Malarkey when he was stationed there: Sgt. Malarkey is now with the U. S. Army in Europe.

LOUISIANA—Brownish pebbles of jasper have been found in the terrain around Midland, Acadia Parish, La.

MAINE—A recent letter from Mrs. Ruth Wentworth, 135 Maine Ave., Portland, Me., has this item:

"Last summer I was lucky. I found a sand concretion at Hill's Beach, Biddeford (York Co.), Me., which was formed on a seaweed. It looks like a rosette. At a gravel pit in Biddeford I found 4 or 5 pebbles with fossil leaves, one looking like a willow leaf. At the sand quarry at the foot of Black Mt., Rumford (Oxford Co.), Me., I found a pebble which had an oak leaf fossil on one side and more leaves on the other."

MARYLAND — Azurite, as bluish veins in limestone, have been found at the old Liberty Copper mine (now abandoned). 1½ miles northwest of Libertytown, Frederick Co., Md.

MASSACHUSETTS—A recent letter from Wilbur J. Elwe'l, 2 Duck St., Mass., had this item:

"Visited the Chester (Hampden Co.), Mass., emery mines during the latter part of last year. The trips were very successful as the heavy rains had washed out 14 good specimens of diaspore (2 were covered with crystals). And these dumps are supposed to be exhausted!

"Went way up to the top of the mountain, about 2000 ft., where there is another emery mine. The dumps at this mine are large but no minerals in it."

MICHIGAN—Some few months ago we received from an unknown friend a compact, brownish, cleavable mass of selenite, (gypsum). The specimen comes from the gypsum quarries at Alabaster, Iosco Co., Mich.

MINNESOTA—Mankato, Blue Earth Co., Minn., is noted for its marble quarries. Most of the stone is medium-grained, buff to yellowish dolomitic limestone. The yellow variety is used extensively for decorative details because of its rich color.

MISSISSIPPI—A large deposit of blue "buckshot" clay is dug at Clarksdale, Coahoma Co., Miss., and used in the manufacture of fine red brick.

MISSOURI — The following item comes from Robert L. Isslieb, Prop., DeSoto Rock Shop, Rt. 3, DeSoto, Mo.—

"While rock hunting I discovered an old abandoned mine shaft and dump. Please make the locality public for the benefit of other collectors. I found more than ten minerals, some too small to identify. All picked on dump.

"Here is the list of minerals found:

Barite, concretionary nodules 5" to 7" in length, also massive barite.

Dolomite, xls on limestone (rhombohedral) sizes up to 1/16", clear, light pink, gray.

Selenite, xls up to ¼" but are hard to find.

Wulfenite, colorless to light yellow in seams.

Galena, in massive barite.

Chalcopyrite, xls small, 1/16" to ¼"

Calcite

Scheelite, small spots in limestone, fl. blue.

Sulphur, in barite nodules.

Drusy Quartz, small terminations.

Barite, xls up to ¼"

"I am sure that many collectors would find more interesting minerals in this dump. I only spent two hours there and I must have missed lots of it. I only picked on the top and never bothered to go back with a shovel."

Sketch showing location of old, abandoned mine shaft and dump near De Soto, Jefferson Co., Mo.

MONTANA — Gerald Navratil, 243 Farragut Parkway, Hastings on Hudson, N.Y., sends in the following item:

"Right north of the river and along the river's edge on Kootenai River at Kootenai Falls, a local tourist attraction between Libby and Troy (Lincoln Co.), Mont., iron pyrites, some altered and oxidized, occur singly and in groups. Crossing the river (which parallels U.S. Highway 2) at the Falls is afforded by a swinging foot bridge.

"The pyrites were not inspected by the writer but verified by two or more sources."

NEBRASKA—In his letter dated April 3, 1956, James Allen, 322 W. 23rd St., So. Sioux City, Nebr., sends in the following item:

"About 5 or 6 miles southwest of Homer (Dakota Co.), Nebr., is a creek where beautiful iridescent pyrite is found. This pyrite, when struck by light, gives off a dazzling array of color. At this same locality we found a large petrified vertebra, supposed to have belonged to a sea serpent which roamed the area during the Cretaceous period."

NEVADA—The following item, dated April 14, 1956, was sent in by Galen Rowell, 1061 Miller Ave., Berkeley 8, Calif.

"At the end of last March our family visited some friends in Nevada. They knew a Mr. Millar who was a vice-president of Anaconda Copper, and the general manager of the copper mine near Yerington (Lyon Co.), Nev. We went to his house, which overlooks the open-pit mine, and had lunch. After lunch Mr. Millar told the general plant foreman to take us around the mine. I told him that I was a rockhound and asked if I could collect some specimens. He replied that he had been a collector in his teens, and so after looking at the plant and rock crusher for about a half an hour, he took us down to the bottom of the 275 foot open-pit mine. The main ore mineral was chrysocolla which usually is useless since copper can't be smelted out of it. At this mine they leach out the copper with sulfuric acid and then put scrap iron in the solution. Copper replaces the iron, and the concentrates left are 90% pure.

"At the bottom of the pit there is a lot of secondary enrichment so that many other minerals are present. I found a piece of almost pure crystalline cuprite, about 4x6 inches in size. I found also a piece of chrysocolla about 12x18 inches in size.

"The guide allowed us to spend 3 hours collecting and by that time the entire trunk of the company car was filled with about 300 pounds of minerals. The minerals that I collected were allophane, azurite, brochantite, chalcocite, chrysocolla, copper (native), cuprite hemimorphite, malachite, tenorite, and a few others.

"This mine is not open to collectors. We were able to collect only because our friends whom we were with at the time, knew the general manager of the mine."

Six specimens of greenish copper minerals (brochantite, chrysocolla, malachite) and dark red cuprite were sent in by Mr. Rowell. These minerals are very colorful.

NEW HAMPSHIRE — Small cinnamon brown zircon xls have been found at the Ruggles feldspar mine, Grafton, Grafton Co., N. H.

NEW JERSEY—The following letter, dated Feb. 27, 1956, come from Clark P. McLean, Brass Castle Road, RD 1, Belvidere, N.J.

"For the 'World News on Mineral Occurrences', I have found about 40 green apatite xls in a fine grained compact calcite, gray in color. I also have found about 100 lbs. of a colorful combination consisting of diopside, both unaltered and alternating to serpentine, thick platy masses of molybdenite, green phlogopite mica books, and massive pyrite. All this material has come from the quarry of the Royal Green Marble Co., northeast of Phillipsburg (Warren Co.), N.J., along the Delaware River. During the August floods, the quarry was completely under water. Also found in the quarry was a zircon xl, approx. 3" long. The finder, Dr. Arthur Montgomery of Lafayette College in nearby Easton, Pa., was not able to get it out complete. During the jack-hammering the xl broke but it is still a good specimen."

NEW MEXICO—Small, emerald-green xls of uvarovite (garnet) are abundant in limestone in the South Canyon district, Dona Ana Co., N. Mex.

NEW YORK—The following letter, dated April 23, 1956 comes from Ralph C. Gosse (Minerals & Gems), P. O. Box 8072, Albany, N.Y.—

"Several months ago through the friendship of Richard Veenfliet of Schoharie, N. Y., I met a collector in Cobleskill, N. Y., Warren Enck.

"At present Mr. Enck, Mr. Veenfliet, and myself are working on opening the old pyrite mine on the old Gebhard farm, now owned by Mr. Veenfliet. We've used about a case of dynamite, and found the mine. It is believed that it was worked during the Civil War for sulphur, although only meager records which Mr. Veenfliet has are available. Being that the mine is only 20 feet long, 10 feet wide, we believe that this may only be a prospect pit. We are now blasting at another spot on the property which may reveal the main working, if one exists. I have taken several photographs inside this working, and if they come out okay, I'll mail you a few. More information on the mine is available, but we would rather wait and see if a larger mine exists.

"I am mailing you several specimens of pyrite from this mine. The specimens when found have an oxide of iron covering them, so the specimens were cleaned in acid. Th formation they occur in is Braymann Shale.

"I have also included in the same package a couple of rock crystals which I removed about 3 weeks ago from the Normanskill Beds, a few miles south of Albany (Albany Co.), N.Y. At this spot a number of fissures are exposed, and lined with rock crystal, some of which are 3-4 inches long, although when they are this size they are very cloudy. Some of the smaller ones are very clear.

"Would like your comment on the one crystal, which is coated with a green film. This is the only one I found with this condition. You need not return this coated crystal, as I am only interested in knowing what would cause this."

The pyrites from the pyrite mine in Schoharie (Schoharie Co.), N.Y., are groups of pyritohedron xls—very attractive pale brassy-yellow specimens.

The quartz xls from south of Albany consist of a 2x2 inch group of very nice rock xls; 2 loose ½ inch long rock xls; and 1 loose 1 inch rock xl coated with olive-green chlorite.

NORTH CAROLINA—John Hood Summey, 712 Carolina Ave., Gastonia, N.C., has sent us a clipping from a recent issue of the GASTONIA GAZETTE. The clipping announces that the Gypsy Min-

ing Co. has leased from the Whitehall Co. of New York extensive deposits of feldspar in the Crabtree Creek section of Mitchell County, N.C., adjacent to the widely known McKinney Feldspar Mines. The McKinney Mines are famous for their wide variety of interesting minerals.

The deposit is said to include columbite, a rare black mineral used in making stainless steel and for other industrial uses as well as in making H-Bombs. The deposits were mined for many years by Whitehall Co. for the feldspar they contained, but operations were discontinued several years ago when the Whitehall Co. announced that it was necessary for them to suspend activities in this area because of high freight rates from here to their plants in the north.

NORTH DAKOTA—Colorless drusy quartz lining cavities of dark brownish petrified wood have been found near Bowman, Bowman Co., N.D., by Mrs. Ed P. Olson, Box 425, Beresford, S. D.

OHIO—Rough, dark red xls of almandite (garnet) in massive smoky quartz have been sent us by Thomas W. James, 923 - 32nd St., Parkersburg, W. Va.

"Found in Raccoon Creek, Newark (Licking Co.), Ohio."—on label.

OKLAHOMA—Dark brown sand concretions have been found on State H'wy 40, N. of U.S. H'wy 66, near Carney, Lincoln Co., Okla., by Glen E. Kiser, Douglass, Kans.

OREGON—A pinkish to reddish tuff (a rock ejected from a volcano) has been sent in by Mrs. Norris Jensen, 8709 S. W. 56th St., Portland 19, Ore.

"From Gateway, Jefferson Co., Ore." —on label.

PENNSYLVANIA—Howard V. Hamilton, Conductor of our Fossil Department, has sent us an interesting fossil. It is a dark gray loose fossil, a cast of seedpod from seed fern, *Trigonocarpus.*

"From abandoned sandstone quarry ½ mile N.W. of Crooked Creek Dam, Armstrong Co., Penn."—on label.

RHODE ISLAND — Black allanite masses in a brownish limonitic matrix have been found in McLaughlin Ledge, Sneech Pond Road, Providence Co., R.I.

SOUTH CAROLINA—Native gold in quartz occurs in a bold quartz ledge at Mt Olive, Laurens Co., S.C.

SOUTH DAKOTA—A dark purplish quartzite mass has been sent in by Mrs. Ed. P. Olson, Box 425, Beresford, S.D.

"From Sioux Falls, Minnehaha Co., S.D."—on label.

TENNESSEE—Dark brown masses of limonite, some showing tiny dark brown cubes (limonite pseudo after pyrite cubes) have been donated by James R. Broyles, Box 311, Greeneville, Tenn.

"The limonites come from near Greeneville, Greene Co., Tenn. Quartz xls, limestone, and this limonite all crop out in a large slate hill."—on label.

TEXAS—Some few months ago we received from W.T.P. O'Gara (formerly of Ft. Worth, Texas, now in Bogota, Colombia) two interesting pebbles—one a greenish, rounded amphibolite and the other a flat, smoky quartz.

"Found at roadside park in Hudspeth Co., Texas, on H'wy 80, approx. 4 miles west of Van Horn."—on label.

UTAH—Howard V. Hamilton, 1340 Crandall Ave., Salt Lake City 6, Utah, sends in the following item:

"A new mineral, abernathyite, was named after Jess Abernathy and was first found by him at his Fuemrol Mine on a lower slope of Temple Mt., on the southeast flank of San Rafael Swell, Emery Co., Utah. It was described in the AMERICAN MINERALOGIST for Jan-Feb 1956."

Abernathyite, a new uranium mineral occurs as transparent, yellow, fluorescent, thick tabular xls belonging to the tetragonal system.

VERMONT—Mountain cork, a variety of amphibole that is so light as to float on water, has been found in the marble quar-

ries at Swanton, Franklin Co., Vt.

The mineral is white to gray or yellowish in color.

VIRGINIA—A dark brown limonite mass, altered partly to a reddish earthy hematite, has been donated by John S. Albanese, P. O. Box 221, Union, N. J.

"From near Pulaski, Pulaski Co., Va." —on label.

WASHINGTON—Galen Rowell, 10-61 Miller Ave., Berkeley 8, Calif., sent in a nice platy mass of black biotite which he had collected 2 years ago in Grant County, Wash. It came from a pegmatite which a road cut had exposed—there were hundreds of tons present, of this pegmatite.

"All that I know about the location of this pegmatite is that it is in a road cut on the highway from Grand Coulee Dam towards Yakima near the series of glacial lakes in Grant County. As far as I can remember there was no town anywhere in the vicinity."—letter dated April 14, 1956, from Mr. Rowell.

WEST VIRGINIA—"This past weekend I was down around Princeton and Bluefield, W. Va., and took advantage of the occasion and decided to look around.

"Just about 3 miles outside of Bluefield, on the road to Princeton there are two or three limestone quarries. All three have quite a bit of calcite, mostly of a stalactitic formation. Some of it is very light and banded like onyx.

"I believe the most interesting items that I found at one quarry were two or three good sized rocks that were full of cavities and these cavities were all lined with fine calcite crystals. I got a pretty good supply of these in case anyone is interested in an exchange. It is too bad that the rocks aren't off to the side where other collectors can get at them in the future, if interested, but I am afraid that they will just be crushed into gravel for roads since the quarry is being worked at the present time.

"I am sending a few samples for your appraisal."—letter dated May 9, 1956, from Dale M. Ingersoll, 2906 Grand Ave., Parkersburg, W. Va.

Four specimens were received of which three were calcites—1st was an iridescent drusy calcite in cavities of gray limestone; 2nd was a drusy colorless calcite lining cavities of a gray limestone; 3rd was a whitish, xline calcite that fl. pale yellow under long wave. The 4th was a white, xline mass of gypsum.

Bluefield (almost on the W. Va.-Va. line) is in southern Mercer County in southern West Virginia.

WISCONSIN — Meredith A. Frey, Mount Hope, Wisc., has sent in a number of dark brown cellular limonite specimens which come from ½ mile north of Seneca, Crawford Co., Wisc. Some specimens have red, earthy coatings of hematite lining cavities, or yellow earthy incrustations of limonite. Other specimens have small grayish quartz pebbles imbedded in the limonite.

WYOMING—John Albanese, P. O. Box 221, Union, N.J., has sent us an interesting specimen, sheridanite, a pale greenish platy mass from north Piney Creek, Sheridan Co., Wyo. Sheridanite is a pale greenish to nearly colorless talc-like chlorite, containing much aluminum and very little iron.

CANADA—Some few months ago we received 2 specimens of red granite, one polished, the other rough. Both were nicely squared They were sent in by Martin Weiss, 3821-18th Ave., Brooklyn 18, N. Y., who represents the Dominion Granite and Marble Co. Ltd., of Toronto, Canada.

"Under separate mailing this day, I sent you a polished and unpolished specimen of our "Lyndhurst Rose" granite quarried at Lyndhurst, Ontario, Canada. We have many colored rocks in our other quarries."—on label.

CEYLON—Some pink to deep red pebbles of garnets, found in the gem gravel pits at Ratnapura, Ceylon, have been donated by Fritz G. H. Carlson, 55 Foster St., New Bedford, Mass.

CHILE—Good specimens of brown massive cuprite, of the type known as liver ore, have been found in the copper mines at Copiapo, Chile. Some green malachite is associated with the brown cuprite.

GREECE—Corfu (the most northerly of the Ionian Islands), is a Greek Island in the Ionian Sea. It is about 38 miles long with a width varying from 3 to 20 miles. The island is highly mountainous. We have 3 mineral specimens from Corfu that were sent us some months ago by John J. Lavranos (formerly of Athens, Greece, but now residing in South Africa). From Chlomos, a town on the east coast of Corfu, come 2 specimens, a nice calcite cleavage, and white, platy gypsum mass with some colorless, transparent selenite plates. From Giannades, a town on the northwestern coast, we have a brownish limonite slab containing cubes of former pyrite xls that have been pseudomorphed into black limonite.

HAWAII—John S. Albanese, P. O. Box 221, Union, N. J., has sent us some brownish selenite xls which are to be found in the eastern part of Oahu Island of the Hawaiian group. The xls are really colorless—the brown is due to brown clay inclusions.

"Gypsum (selenite), from Kailua Hills, Island of Oahu, Hawaiian Islands." on label.

MADAGASCAR — Deep red rubies (corundum) have been found at Ampaniny, Madagascar.

PANAMA—Some months ago we received two specimens from Frank Wagner, Box 1486, Balboa, Canal Zone. One specimen consisted of melanterite (white crust, also as tufts of tiny white needles with brassy pyrite) on a dark gray rock which was so incrusted by the melanterite that its identity could not be determined.

The other specimen consisted of thin, yellow sulphur incrustations on a dark gray rock (see above), with some white melanterite.

The locality for the two specimens is Campana Hill, Panama Province, Panama.

PUERTO RICO—We have a pink, compact limestone specimen that was sent us by David A. Burgess, 268 Roselle St., Memphis 4, Tenn., who collected it several years ago while residing on the island.

"From Fort Buchanan, near San Juan, Puerto Rico."—on label.

SALVADOR—Salvador (or El Salvador) is the smallest but most densely populated of the Central American Republics. Several years ago one of our subscribers visited Salvador — Joseph A. Schraut, Jr., 4125 Fillmore St., St. Louis 16, Mo.

In a recent letter from Mr. Schraut, he writes:

"Odd grotesque rhombs of calcite and a milky transluscent zeolite in crystals were collected at the Guayabo dam (at the rapids of the Lempa River) in Salvador. Calcite replaced some of the zeolite. The area was all volcanics—pumice, ash, tuffs, and flows with dikes of basalt and andesite over the area."

SCOTLAND—Brilliant rock xls on xled lead-gray galena have been found in the lead mines at Wanlockhead, Dumfriesshire, Scotland.

SOUTH AFRICA—W. M. Johnson, RFD 6, Knoxville, Tenn., sent us recently a copy of Jan. 1956 FORTNIGHTLY DIGEST OF SOUTH AFRICAN AFFAIRS issued by the State Information Office, Pretoria, South Africa. On p. 9 of the publication appears the following title "Diamond strike in South West".

"What may prove to be rich diamond-bearing ground was discovered last month on the sands of South West Africa's bleak Skeleton Coast, some 150 miles to the south of the Angola border and 300 miles north of Walvis Bay.

"The strike was made by prospectors of an organization led by two Johannesburg men, Mr. J. Levinson and Mr. F. L. Veraart, about 120 miles south of Rocky

The fluorite mine at Snogge, Skane Province, Sweden. The main shaft is to the left. Note the mine dumps (white).

Point, where an American steel concern (the Bethlehem Steel Corporation) may build a harbour if it decides to go ahead with the mining of iron ore discovered two years ago.

"More than 200 diamonds, mostly of small size, were found by the prospectors in a matter of hours. It is not yet known how rich the diamond field is, although the organization's geologists are of the opinion that it will prove as rich a deposit as that discovered at the Orange River mouth. If this opinion is verified, heavy machinery will be brought to Rock Point to probe the giant sand-dunes to reach the diamondiferous gravel."

SPAIN—Juan Montal, Plaza Sgdo. Corazon 1, Villafranca del Panades, Spain, has sent in an interesting mineral, oruetite.

Oruetite occurs as lamellar masses with brilliant metallic luster and steel-gray color. It is found in dolomite in Estopona, Malaga Province, Spain. Named after Domingo de Orueta who first found it in Serrania de Ronda, Spain, with native bismuth, bismuthinite, arsenopyrite, and scheelite.

SWEDEN—Gerhard Koppen, Skanegatan 3, Nybro, Sweden, has sent us 3 specimens from the fluorite mine at Snogge, Skane Province, Sweden. Snogge is 16 kms. (about 10 miles) west of Simrishamm, a city on the Baltic Sea near the extreme southern tip of Sweden. The specimens are:

Fluorite, a deep green mass with some tiny galena grains.

Galena, lead-gray, xline, with white fluorite.

Sphalerite, dark greenish mass with green fluorite.

TANGANYIKA—John S. Albanese, P. O. Box 221, Union, N. J., donated a mass of dark green tourmaline xls in gray pegmatite.

"From Hombolo, Dodoma District, Tanganyika, Africa."—on label.

Met many people through exchange of specimens!

Editor R & M:

Enclosed is $3.00 for my subscription renewal. I am enjoying one of the finest hobbies and have met many fine people through the exchange of thumb nail specimens.

Thomas R. Lewis
Box 1
Hamburg, N. J.

June 9, 1956

R & M an All American!

Editor R & M:

R & M is getting better with every issue. I guess you could call it an "All American."

Jack M. Park,
5 W. Broadway
Yorkton, Sask, Canada

May 12, 1956

THE SAND COLLECTOR

CONDUCTED BY PETER ZODAC
PEEKSKILL, N. Y.

Granite sand from Birmingham, Ala.

Miss Juliette Desport, 1229-17th Ave. So., Nashville, Tenn., sent in this sample which is a medium grained, sand. It consists of smoky quartz, white feldspar, black biotite, and some lustrous black magnetite.

Birmingham (Jefferson Co.) is the largest city in Alabama.

Quartz sand from Patagonia, Ariz.

This is a fine grained, brownish sand. It consists of quartz (colorless, smoky, brownish, red chalcedony) with some dull black magnetite and brown clay. Minor amounts present are black biotite, silvery muscovite, and brown sandstone.

"From Patagonia, Santa Cruz Co., Ariz."—on label. The sand was sent in by Geo. Barclay, Box 433, Newport News, Va.

River sand from near Paradise, Calif.

This sample was collected from Nelson's Bar in the Feather River, near Paradise, Butte Co., Calif., and was sent us by Arthur W. Browne, 623 Palo Alto Ave., Mountain View, Calif.

The sample is a medium grained, dark gray sand. It consists of black lustrous magnetite (some showing good xl faces), quartz (colorless, smoky), pinkish feldspar with some blackish biotite, silvery muscovite, and light to dark green serpentine.

Beach sand from Panama City, Fla.

From a beach on the Gulf of Mexico, at Panama City, Bay Co., Fla., we have a sand sample that was sent in by Miss Juliette Desport, 1229-17th Ave., So., Nashville, Tenn.

The sample is a fine grained, gray sand consisting entirely of colorless quartz.

Biotite sand from Norris Island, Maine

Philip Morrill, Box 46, Derry, N. H. sent in this sample which is a medium grained, lustrous black sand. It consists chiefly of lustrous black biotite with minor amounts of black magnetite and smoky quartz "Norris Island, Androscoggin Lake, Wayne, Kennebec Co., Maine." —on label.

Beach sand from Greenbush, Mich.

Greenbush, in S.E. Alcona Co., Mich., is on Lake Huron. From a beach south of Greenbush we have a sand sample that was sent in by Harry A. Laurent, P. O. Box 345, Nashville, Mich.

The sample is a fine grained, gray sand consisting chiefly of quartz (colorless, smoky, brownish) with some pale pinkish feldspar and a tiny amount of black magnetite.

Lake sand from Albert Lea, Minn.

This is a dark gray, medium grained sand consisting chiefly of quartz (smoky, colorless, reddish) and feldspar (pinkish, white). Some black magnetite was also present. The sample was sent in by Glen E. Kiser, Douglas, Kans.

"From Fountain Lake, Albert Lea (Freeborn Co.), Minn."—on label.

Creek sand from Pryor Creek, Mont.

This sample was sent us some few months ago by Ray D. Stratton, Worden, Mont. It is a medium grained, dark gray sand consisting chiefly of quartz (colorless, smoky, brownish, reddish) with black magnetite and silvery muscovite.

"Pryor Creek, Yellowstone Co., south of Huntley, Mont."—on label.

Lake sand from Massasecum Lake, N.H.

Mr. & Mrs. John Chisdock, 516 Stark St., Moosic 7, Penn., collected this sand sample which is medium grained and brown in color. The sand consists chiefly of smoky quartz and pinkish feldspar with a tiny amount of black magnetite.

"From Massasecum Lake, Rockingham Co., N. H."--on label.

Delta sand from Fullerville, N. Y.

Harold J. Lienemann, Box 42, Gouverneur, N. Y., was a recent visitor at the offices of R&M and before leaving he gave us a sample of sand from northern New York. The sample is a medium grained, dark gray sand consisting chiefly of smoky quartz with smaller amounts of pinkish feldspar and a tiny amount of black magnetite.

"Sample from sand blow area near the village of Fullerville, Town of Fowler, St. Lawrence County, N. Y. This sand was originally deposited as a delta in Glacial Lake Iroquois."—on label.

Ant Hill sand from Hennessey, Okla.

We are indebted to Glen E. Kiser, Douglass, Kans., for this interesting sample which is a fine grained, red sand. It consists chiefly of quartz stained red by red clay, red clay and a tiny amount of blackish magnetite.

"Sand from highway 51 west of Hennessey (Kingfisher Co.), Okla. Sand along highway is gray, then one sees a reddish blurb of sand at times. Found these blurbs to be ant hills. Wonder from how far down the ants bring up the red sand?"—on label.

Garnet sand from near Myrtle Beach, S. C.

"I am sending you a sand sample from Long Bay Estates (beach) just south of Myrtle Beach, Horry Co., S. C. There was one long streak of this colored sand—looks purple in the sunlight."—letter dated March 6, 1956, from John Hood Summey, 712 Carolina Ave., Gastonia, N. C.

The sample is a coarse grained, reddish-gray sand. It consists of pink gemmy garnet, colorless quartz and sea shells (white, brown).

"Beach sand from Long Bay Estates (on the Atlantic Ocean), south of Myrtle Beach, S. C."—on label.

River sand from Gayville, S. D.

This is a fine grained, gray sand consisting chiefly of quartz (chiefly colorless, some smoky, also reddish chalcedony) and a little amount of lustrous black magnetite.

"Sand from near Gayville, Yankton Co., S. D., from the Missouri River shore. We also found agate and hematite slabs here."—on label of sand which was sent us by Mrs. Ed. P. Olson, Beresford, S. D.

Quartz sand from Crosbyton, Texas.

This is a medium grained, brownish sand consisting entirely of quartz (brown, colorless, smoky) and was sent in by Glen E. Kiser, Douglass, Kans.

"Sand comes from 300 feet below surface in irrigation well at Crosbyton, Crosby Co., Texas."--on label.

Quartz sand from Tahuya, Wash.

This sample is a dark brown, medium grained sand. It consists chiefly of smoky quartz with some grayish feldspar and dull black magnetite. The grains of sand are all deeply coated by brown clay so that at times their identity is often hidden. The sample was collected for us by Mrs. Geo. Bergston, 816 Colleen Ave., Evansdale, Waterloo, Iowa.

"Sand from roadside along Hood Canal, Tahuya, Mason Co., Wash."--on label.

Quartz sand from Fremont Co., Wyo.

Back in 1953 we received a sand sample from John P. Connor, Box 522, Armour, S. D., but before we had a chance to examine it, the sample got "lost" and—we found it a few days ago. It is a very coarse, greenish sand consisting of quartz (smoky, white, pale rose, pinkish to gray chalcedony), green epidote, greenish serpentine and black magnetite.

"We hunted for jade in the foothills of the Green Mts. in Wyoming, found a few pieces of poor quality but did find some nice Sweetwater agates in the agate

beds near there. I saw some sand in the gully washes with a greenish cast. I thought you would like to see it, so am sending a sample.

"The sand is from Fremont County, Wyo. It was collected along Hiway 287, a few miles east of where the hiway crosses the Sweetwater River, not far from where recent uranium ore finds were made. As we have seen many Sweetwater agates that are fluorescent, maybe the sand will also be fluorescent."—letter dated Oct. 28, 1953 from Mr. Connor.

The sand is not fluorescent and no agate could be spotted in it, although it does contain chalcedony (agate is a variety of chalcedony).

Beach sand from northern Alaska

"I am sending with this letter a cigar box of beach 'sand' from the shores of the Arctic Ocean. The location is some 50 or 100 miles west of Point Barrow, Alaska. I have already taken a sufficient quantity of it for myself. Been peering at it with magnifier and microscope and find it quite interesting, particularly the large variety of rocks comprising the pebbles.

"Wave action is very gentle on the Arctic shores because of the pack ice. I presume this is why the pebbles are mostly flat, and the sand not washed so clean.

"The terrain of the northern coast of Alaska is very flat and extends back a hundred miles and more to the Brookes Mountains.

"I haven't made any trip yet (to Alaska), nor none is in prospect just now. The sand was sent by one of our fellows on the DEW line.

"Approximately 50 men have passed through our headquarters here prior to departing for the north. It's very disappointing that only one (who sent the sand) showed any interest in minerals." —letter dated April 24, 1956, from Fred W. Schmeltz, 603 Fairlawn Pkwy, Warren Point, N. J.

The sample consisted of so much gravel that it had to be separated from the sand. The gravel was dark brown to black in color and the pebbles varied from 1/4 to 3/4 inches in size. (It consisted of gray to dark gray limestone, grayish granite, black magnetite, and quartz (black basanite, gray and red chalcedony, brown jasper, and grayish petrified wood).

The sand is coarse grained and brown. It consists of quartz (smoky, colorless, brownish, black basanite, red carnelian, red chalcedony), gray to brown limestone, white sea shells, a small amount of black magnetite, and quite an amount of brown clay.

Shell sand from Ascension Island

Ascension, an island of volcanic origin in the South Atlantic, belongs to Great Britain. It has an area of 38 sq. miles. The island is mountainous, one peak rising to the height of 2870 feet. It was discovered in 1501 by the Portuguese on Ascension Day, hence its name.

From the island we have a sand sample that was sent us by E. J. Sawyer, F.R.S.A., 9 Country Club, Wetton Road, Wynberg, C.P., South Africa. The sample is a pale brown, medium grained sand consisting almost entirely of sea shells (brown, white, some reddish, some pinkish) with a tiny amount of dull black magnetite. The sands are nicely rounded and water polished.

"Sand from a beach on the volcanic island of Ascension, South Atlantic. Collected by E. J. Sawyer, F.R.S.A., August 1953 while on a visit to the island."—on label.

Shell sand from Trigg's Island, West Australia

Miss M.V.B. Green, 12 Burtway, Perth, Western Australia, collected this sample for us. It is a light gray, medium grained sand consisting chiefly of sea shells (white, gray, brown, pink) with some colorless quartz. Many of the shells are nicely water polished, some show a play of colors (opalescent). Some shells fl. a pale lemon under long wave.

"Beach sand (from Indian Ocean) from Trigg's Island (minute piece of land, mostly *not* an island), about 8 miles north of Freemantle on the west coast of Western Australia."—on label.

Quartz sand from Partridge Island, N. S., Canada

Partridge Island is a small island in Minas Basin, about 3 miles south from Parrsboro, Nova Scotia, Canada. It is an excellent example of a tied island (an island connected with the mainland by a beach); Partridge Island is also famous for its minerals and so is much visited by collectors.

From the island we have a sand sample that was sent us by Mrs. Olive E. Looney, Lincolnville, Maine. The sample is a medium grained, gray sand. It consists of quartz (smoky, reddish), colorless calcite, and gray clay.

"From west side of Partridge Island, Parrsboro, Cumberland County, Nova Scotia, Canada. Collected by Eldon George, Parrsboro Rock & Mineral Shop. Sent by Mrs. Olive E. Looney".—on label.

Shell sand from Formosa

Maj. and Mrs. Howard P. Graf, of Peekskill, N.Y., who are stationed on Formosa, the large island off the coast of China, sent us some sands from the island. One was the ordinary beach sand —a fine grained, brown sand. It consists chiefly of sea shells (brown, dark brown, also white), with minor amounts of colorless quartz and dull black magnetite. Some of the shells fl. dull yellow under long wave.

"This sand comes from the beach 15 yds. above water line. Beach is at the N.W. tip of Taiwan."—on label.

Formosa (also known as Taiwan), an island about 75 miles off the southern coast of China, is about 235 miles long its greatest width is about 90 miles. The name, Formosa, is from the Portuguese, meaning "beautiful"; Taiwan is from the Chinese, meaning "terrace". The island is very mountainous.

Olivine sand from Stromboli, Italy

Stromboli is one of the Lipari Islands, a group of small volcanic islands off the north coast of Sicily. Stromboli, about 5 sq. miles in area, is famous for its volcano which is in continuous eruption. At remarkably brief intervals, the volcano will eject huge masses of lava which explode with a thunderous noise and are accompanied by showers of stone almost all of which fall within the crater or roll harmlessly down its slopes.

A recent visitor to Stromboli was Dr. Frederick H. Pough, 4680 Independence Ave., New York 71, N. Y., who collected for us a sand sample from the island. This is a medium grained, black sand. It consists chiefly of green to dark green olivine and black, pitted lava, with a small amount of black magnetite.

A letter, dated June 26, 1956, from Dr. Pough, reads as follows:

"There is probably a lot of glassy black lava which might almost be called obsidian in the sand, for the eruptions throw out a lot of stuff that cools very quickly into a glassy rock. There is also a little brown Pele's hair up near the summit (of the crater). I've never seen it mentioned for Stromboli, but then I've never read much on that island.

"I had a nice volcano expedition this Spring, and spent a week on the island, climbing the crater three times and getting some nice pictures of the eruptions. I didn't have enough time on the other Lipari Islands to get you sands from them, but maybe I can do that the next time I get there (assuming there is a next time).

"Vulcano (another island with an active volcano) is steaming a lot and depositing sulphur in the crater — very colorful! Vesuvius (the volcano near Naples, Italy,) is discouragingly dead, a little steam from the wall of a deep crater and that is all. Etna's eruptions (on the island of Sicily) of this Spring were too short-lived; and you can count on clouds around the summit in the winter and early spring, so you won't get much. This is true of Stromboli too, the best time to go there is August to have it clear, but then it's pretty hot to climb 3000 feet to the top of the crater. If it isn't one thing it's another!"

Shell sands from Okinawa

Okinawa is the largest island in the Ryukyu group which consist of 55 is-

lands (36 of them inhabited) which stretch for hundreds of miles southwest from Japan on the northeast and Formosa to the southwest. Okinawa is about 70 miles long, north and south, and 10 miles wide, east and west. It is entirely of coral limestone formation.

From Okinawa we have 3 sand samples that were collected for us by Maj. W. Phippen, 8114 Au, RHH, APO 331, San Francisco, Calif. Though the sands were collected at widely scattered beaches, they are all the same—all sea shells.

Sand #1, from Ishikawa, on the east coast of the island, is fine grained and brownish in color. Consists entirely of sea shells (brown, white, pinkish).

"From Ishikawa, Okinawa, Philippine Sea."—on label.

Sand #2, from Okuma, on the north coast. Fine grained, grayish sand. All sea shells (brown, white).

"From Okuma, East China Sea."—on label.

Sand #3, from Mercy Hospital Beach which is on the southwest coast. Medium grained, brown sand. All sea shells but of various shapes; color chiefly brown (a minor amount is white.)

"Mercy Hospital Beach, East China Sea."—on label.

Garnet and Magnetite sands from Helmsdale, Scotland.

"These two sands were collected by Hugh McCollum of Barrhead, when on a visit north. They are concentrates from a burn (brook or small stream) in Helmsdale Valley, Sutherlandshire, in the north of Scotland.

"The garnet sand may be pyrope, and the other either magnetite or ilmenite.

"Hugh found two tiny flecks of gold as well. At one time gold was found there in small quantities." — on label with sand that was sent us by Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland.

The garnet sand is dark red, and medium grained. It consists chiefly of pinkish garnet with minor amounts of black magnetite. A tiny amount of black ilmenite and colorless quartz also present. No gold was seen but one pale brown crystal fragment of zircon was spotted (fl. orange under the Mineralight).

The magnetite sand is lustrous black and medium grained. All black lustrous magnetite.

Information wanted by readers!

My copy of ROCKS AND MINERALS just arrived and I was delighted to see the new department "Information wanted by Readers." I predict this will be an extremely popular feature. I, too, would like to 'get into the act.' So when some space becomes available could you *squeeze* in the following:

Collectors:—I would like to write an article for ROCKS AND MINERALS about my favorite mineral, lazulite. I need a list of all localities and information, nicknames, bibliography uses, lure, etc. If lazulite (or its sister mineral scorzalite) occurs in your state or country, please let me know. Thank you.

C. Henry King
Box 204,
June 24, 1956 Franklinville, N. C.

Time moves on with R & M!

Editor R & M:

I see the time has come to renew again my subscription to ROCKS AND MINERALS. How we all have changed over the years. When I first knew ROCKS AND MINERALS it came out monthly with a different color cover each—then for your 10th Anniversary issue in 1936 you changed the format—you had outgrown your clothes and put on a new suit. Over the past 20 years you have continued to grow and change—a comparison of today's and yesterday's issues reveals what a long way you have traveled.

Congratulations on 30 years of progress and service to 'Rock Hounds.'

Bennett S. Pancoast
Box 506
Woodstown, N. J.

June 24, 1956

WOMEN'S CORNER OF R&M

Conducted by Winnie Bourne
c/o Rocks and Minerals

Box 29, Peekskill, N. Y.

I have received so many fine letters and articles for "Women's Corner" of R&M for publication with this issue that I hope my women friends that are omitted for lack of space do not feel prejudiced as they will be included in Sept-Oct. issue. I'm sincerely grateful for the fine response given to "Women's Corner" and I know our many readers on the distaff side enjoy reading about your experiences in the mineral field for the proof is contained in the many letters received.—Thank you.

A rockhound since 1929!

Dear Winnie:

"Well, well, a woman's eye view into the world of mineralogy, and about time too. I think it's a swell idea, I wish I had thought of it myself, I would have tried to get in as its editor.

This cabinet houses the most colorful (also polished) specimens which are the pride and joy of Cora E. Weston, Mineral Collector, Reeds Ferry, N. H.

"I've been a rockhound since 1929 and my interest in collecting surely did start differently from yours. My husband used to buy a 25c magazine of western stories call "Ace High" and at the back of it there were columns of swap-ads. I was a young housewife with lots of time on my hands and I answered the plea of a Jack Welch in Colorado who had mineral specimens to swap for sea shells. Well, after receiving the fine box of specimens from him I was an avid collector,—and over the years I have amassed quite a collection of minerals, fossils and gemstones, both in the raw and cut and polished.

"I have visits from interested students at the University of New Hampshire, and boys in high school at nearby Nashua come to me for needed specimens for their science fair projects—which pleases me very much.

"Hope this letter proves interesting to you. I am enclosing a photo of one of my mineral cabinets. Best of luck to you with your column."

Cora E. Weston
Mineral Collector
Reeds Ferry, N. H.

Anxious to meet other ladies interested in minerals!

Dear Winnie:

"I have been reading "Women's Corner" again and find it very interesting.

"As I'm trying to collect rocks and minerals as a hobby I'd like very much to meet another lady or ladies that have an interest in minerals. So far I've not found anyone that has an interest in such

a hobby. Maybe you could print my name and address as being interested in meeting someone in or around Harrisburg with the same interest. Thank you.

"I am a subscriber for ROCKS AND MINERALS and would you please pass the word to your editor that I'd like to have my name added to the list of visiting rockhounds?"—Note—We'll be glad to take care of it for you, Mrs. Schwartzbach.

Mrs. Ammon Schwartzbach
2239 Logan St.
Harrisburg, Pa.

Dear Winnie Bourne:

I read your column for women, in ROCKS AND MINERALS, and I think it a great idea. I am sending along an article that I have written on one of my experiences collecting crystals. I hope you can use it in your column. I have never written about any of my experiences before, but have several if you are interested. (Yes, please send them in—Winnie).

"I am an amateur at this, but would like to see your column succeed, so am sending an article I hope you can use.

Naoma Brooks
44238 N. Date
Lancaster, Calif.

Crystals from White Mts., Bishop, Calif.

"Did you ever start out very early, some morning, with the hopes of finding a pocket of beautiful crystals; and ending up by doing just that? Let me tell you of one of my experiences.

"One day an old time prospector came to my house, telling of the beautiful sparkling material lining the edge of an old mine shaft. He knew I was interested in minerals, so we planned a trip for the following week-end, to look over this material that sparkled like diamonds.

"After driving fifty miles, we left the highway; to take an old miner's road to the bottom of the mountains we were to climb. We hiked six miles over rocks, down gullys and up over the hog back; and finally came upon the old mine shaft. There, lining one side of the shaft, were these beautiful, clear quartz crystals, with a drusy quartz coating that sparkled like so many tiny diamonds.

"We were so thrilled with the crystals that we didn't take time for lunch, but immediately set out for more hard work. Being very careful, so as not to break any of the crystals, we were able to secure five extra special specimens—about six smaller ones, and seven or eight single crystals. I can't describe the beauty of these crystal groups, they have to be seen to be appreciated.

"After taking time out now for our much needed lunch, and resting for awhile, we decided it was time for us to start on the six mile hike, back down the mountain. In three hours and fifteen minutes we were back at the car. Very tired, but very proud of our day's work, we headed for home with our specimens that sparkled like diamonds." — Naoma Brooks.

How I became interested in minerals!

Dear Winnie:

"How I became interested in minerals I really don't know. I have always been collecting things—making things—experimenting in many ways. I can see myself as a small child, digging in the big sand piles around the lot on which the big cathedral was being built in St. Paul, Minn. I was hunting agates at the time. I found agates, but I don't know how I knew they were agates. I think it was the feeling of them. I saved pretty stones - coins - stamps. Unhappily my collections were spoiled time and again, because we were continually moving—sometimes over the sea—and stones were then thrown away—even coins disappeared. Somehow the stamps were saved.

"Life had many things in store for me: music—a little art—marriage—motherhood. But now I am back to the agates. When my mother had no more children at home she started to travel around with my father, and while he worked she wandered around picking stones, mostly agates. She even began to cut and polish them. They sent me a nice collection which I never tired of handling and looking at. When mother died at the age of 80, I

inherited her raw material and lapidary equipment, for which I was very happy. But alas everything was 30 years old and I had to have a transformer to be able to use them. It took ages before I could do anything at all, but I enjoyed myself. I have been buying books—reading—learning—forgetting.

"I have had great pleasure with R&M, but also heartaches. —— When I read about all the minerals people find, here - there and - everywhere, and the advertisements telling all the wonderful things to be bought! Here I sit, way over in Sweden where one can get nothing, and wish I were back in St. Paul again. I dream of one of those lapidary units—just think if some amateur lapidary who has "grown out" of some older unit, would like to sell it cheaply! There would be no duty on used materials. Dollars are scarce and big here!

"Happily I spend the summers on the coast of Norway, near Kragerö, where there are lots of minerals to find. On every other island there is an old quarry, mostly quartz and feldspars, but one can find sunstone, and some day I might find something "terrific". I should certainly like to be a member of the novice column, but the distance is unpractical. What if there were a column for the novice lapidary? Well, I will just go on—Hunting - reading - learning -forgetting, over and over again!"

Mrs. Wencke Hasselgren
Reginsvagen 6,
Bromma, Sweden

New Uranium Mill For Vitro at Canonsburg, Pa.

Vitro Rare Metals Company, a division of Vitro Corporation of America, is ready to break ground for extensive additions to its Canonsburg, Pa., plant, according to an announcement by Joseph Swigart, general manager. An expenditure of more than a million dollars will establish the first commercial primary uranium processing plant in the Eastern United States. It will also give the plant new facilities for a recently developed solvent extraction process, which offers increased efficiency.

The new plant will double the old facilities in size, will allow technical and reagent grade chemical production, and will permit the milling and processing of uranium, particularly the residues. Previously the Canonsburg plant had been equipped for the hydro-metallurgical processing of uranium ores and other metallic waste materials, and for the refining and recovery of rare metals for industrial use.

The Canonsburg plant was established in 1909 for the processing of vanadium ores, and was involved in the production of radium in World War I, becoming the largest producer in the United States. In 1921 Mme. Marie Curie was presented with the first gram of American radium, produced in this plant.

Uranium was present in the same ores processed for vanadium and radium, but until World War II it was comparatively unimportant, being used only in small quantities for ceramic colors. At one time Canonsburg discarded large quantities of uranium which was later recovered for the government's atomic energy program.

Mr. Swigart indicated that the plant will be ready for extensive uranium milling and processing in about eight months. Vitro Engineering Division of New York is doing the design and engineering, and construction by the Refinery Engineering Company of Tulsa, Okla., both also divisions of Vitro Corporation. He also stated that sufficient quantities of uranium ores and residues have been assured the new plant to fulfill processing schedules.

Anxious to swap with other collectors!

Editor R & M:

Our Geology course here at Belmont Abbey is just two years established, and we do find that the collection of specimens needs to be built up considerably. We especially need some large display specimens. This summer we are adding three large display cabinets but fear that we are a bit short on the type of material that should go in them.

We wondered if we might not work out some kind of swap with other collectors. We could furnish many of the interesting North Carolina minerals in exchange. Particularly we have recently obtained a supply of fine samarskite crystals which we understand are rather unusual.

Dept. of Physical Science
Belmont Abbey College
Belmont, N. C.

May 30, 1956

THE GEM COLLECTOR

Conducted by Bill Cole
408 Dickinson, Chillicothe, Mo.

Olivine

A gem which has commanded a great deal of attention throughout the centuries is Olivine, a bottle green Magnesium-Iron Silicate. The Olivine is classed into two groups, the green shade known as Peridot, and the more yellowish color termed Chrysolite. The Olivine is named after the Olive of which color the gem so closely resembles. The name Chrysolite from the Greek words meaning golden stone.

Olivine varies in color from a beautiful clear green through various shades of yellow and brown to black. The hardness is from 6½ to 7, depending on the amount of impurity present. The S. G. is 3.34. The refractive index varies from 1.65 to 1.69 which means that a cut stone has a reasonably good amount of fire and sparkle.

The composition of Olivine varies in relation to the amount of Iron and Magnesium present, the more Iron the darker the stone. When the Iron is the major component the mineral is called Fayalite. When the Magnesium is in the majority a much finer color is obtained though quite a bit softer than the other, this is termed Forsterite.

The size of gem quality crystals of Peridot is a determining factor with its value, and any gem over 50 carats commands a very high price. There are only a few cut stones of Peridot over 100 carats in size, and these have come from St. John's Island in the Red Sea where the largest known specimens are found.

The usual form for cutting Peridot is the step cut which produces a very brilliant gem, but many other cuts such as the standard brilliant and oval may be employed with good results.

Olivine is an important constituent of meteorites of the stony and stony iron types, and very rarely a specimen large enough to cut is found in one of these visitors from outer space, which yields a rare gem indeed for the collector of the unusual.

In ancient times the Peridot was not recognized as a distinct gem species but only a green variety of Topaz or Quartz. Pliny in his Natural History of the World mention that a Topaz of a fine green color is found at only one locality, on an island in the Red Sea. And during this time certain stones were believed to be luminous at night, and Pliny relates that the Topaz, which was the name given to Peridot, was mined only at night while the stones were clearly visible, for in the daylight the gems were difficult to find, if not impossible, because the surrounding light masked out the stones.

The Peridot was mined extensively by the Egyptians who prized it very highly, and for many centuries they hoarded all the stones they mined or came into possession of. The Red Sea locality, which was owned and worked by the Egyptians, was so closely guarded by the Kings that any one who dared trespass on this hallowed ground was subject to punishment of death.

In the days of ancient Rome the popular style of cutting Peridot was engraving into seal rings, and many of the fine Emerald rings and seals mentioned in Roman literature may well have been Peridots since color was about the only thing the ancient gemologists went by to determine the identity of a stone.

Today the most important localities for good gem quality Peridot are the Red Sea locality (St. John's Island), Ceylon, where the stones are found as water worn pebbles up to several carats in size, and Brazil, where the gems are found in the gem gravels of the streams and rivers.

(Continued on page 400)

THE AMATEUR LAPIDARY

Conducted by Captain George W. Owens

Hq Sq 384th Bombardment Wing, Little Rock Air Force Base, Jacksonville, Arkansas

Amateur and professional lapidaries are cordially invited to submit contributions and so make this department of interest to all

NOTES ON ABRADING MATERIALS

The Amateur Lapidist is often confronted with problems in grinding and polishing both minerals and gem stones of all types. Some minerals seem to yield to certain techniques only part of the time, while others, notably quartz, will respond to any number of polishing methods.

Variations in XLS, grain, composition of cutting material and hardness probably account to a great extent for differences when attempting a polish, however, the age, cleanliness and composition of both the polish agent and the lap must be considered as well. Every amateur has some touch of the experimenter in him and most of us try, at least once, the various new products appearing in the hands of our dealers — often with pleasing results. The names of the products are usually non-technical, often fancy, such as "Jeweler's Rouge", etc., even more often the proprietary names give no indication of the composition of the compound.

Recently a number of compounds containing diamond have appeared on the market. As a rule these diamond pastes are closely graded mixtures, holding the powder in proper dispersion. These modern compounds or pastes are scientifically composed to include a wetting and dispersion agent, a carrier for permanent and uniform suspension of the diamond, a mastic to maintain a desirable consistency -and diamond powder.

Objections to most such preparations is that the diamond content is seldom, if ever, mentioned. The average, by volume, probably being less than 2%. The prices of such compounds (as offered to us amateurs) are entirely too high considering the low content of diamond. However, mixing pastes or compounds may be accomplished by each of us with better than average success if we use a little imagination - one fellow uses his wife's cold cream as a carrier and evidently it works as he continues to use it — a more scientific approach is possible. For those who would like to make their own pastes a basic mixture consisting of Castile Soap (50%), Glycol (50%), should be hint enough. A heavy mineral oil such as "Nujol" might be added and the addition of some slight amount of the various acids might be made with good results. It is believed that if some alert dealer would contact some of the large industrial diamond companies or either the ANDB or ADB organizations in Holland and Belgium he may be able to supply paste at reasonable prices.

(ANDB — Algemeene Nederlande Diamantbewerkersbond of Amsterdam)

(ADB — Algemeene Diamantbewerkersbond of Antwerp)

If diamond pastes could be purchased at sufficiently low cost most of us would use considerable more than we now do as polishing is usually fast, "clean", and positive with a suitable paste. Since this isn't presently the case, a few notes on some of the grinding, lapping and polishing agents are presented:

Aluminium oxide — Natural and artificial. (See Corundum).

Beryllium oxide — A white powder recommended for grinding.

Beryllium carbide — A hard abrading substance.

Boron — Usually a black powder, very hard.

Boron carbide — (Norbide) Hardest artificial abrasive known. Available as

abrasive grain in various "grits". A compound of Norbide and diamond is especially good for lapping both large and small specimens as well as for use in drilling holes and engraving. In lapping the use of a bronze lap with a mixture consisting of approximately twenty parts of diamond to eighty parts of Norbide mixed with olive oil has been tried with good results. In drilling small holes a mixture of roughly 8 to 10 parts diamond and the balance of Norbide mixed with olive oil gives a good clean hole within approximately the same time range as obtained by using bort alone. Such mixtures are also suitable for basic engraving work. The lower cost per carat of such mixtures makes these compounds worthy of further study. It is hoped that some good fellow amateur will undertake some work along this line and give us a report in these pages on his findings.

Corundum — synthetic - For abrasive purposes. Contains besides aluminium oxide, ferric oxide, titanium oxide and silicon oxide. The fracture is conchoidal-granular, with great toughness. Cleavage is inferior to natural corundum.

Corundum — natural - For abrasive and polishing purposes. Nearly pure aluminium oxide. Good cleavage. Chief source is South Africa but found in North and South America, India, Russia and elsewhere. Used extensively in industry as well as by amateurs. One of the finest of the polishing agents that we use and marketed under various trade names.

Ceria — cerium oxide - Increasing use by amateurs as polish agent for agate, quartz and similar stones. Used in polishing optical glass. Provides a "faster" polish than red rouge and tin oxide without causing those smooth scratches made by these materials on some agate. Can be used on lucite, felt, pitch, etc., probably with more success at high speeds. A solution, actually a sedimentation process, of cerium oxide and plain distilled water is often successful in polishing materials that do not seem to yield to other polishing agents. To make, simply place one tablespoon of the oxide into one pint of distilled water. Shake vigorously, allow to stand about five minutes — pour off the top half of the water. Use this top portion for polishing on a wax lap. Minerals in the five hardness range often react favorably.

Chromium oxide — (green rouge) — artificial. Polish agent especially good on beryls. Also of use as a cleaner and polish for nickel and some other metals. Has been used as a polish for jade.

Crocus — Hard iron oxide (peroxide of iron). The English product seems to produce a better finish, probably because it is slightly softer. In hardness about equal to a "soft" silica. Valuable in working gold and silver.

Diamond — (bort or boart). Minutely crystalline, of no use as gems. Both grinding and polishing powders of various sizes. A considerable difference exists between this and other countries, even down to various producing firms, in grades, sizes, and often in prices as well. While there seems to be no absolute standard for subsieve sizes in diamond powders the scientific literature is very extensive. The U.S. Standard listing of the finest mesh sieve is No. 400. There is a general agreement that subsieve size powders be graded by micron (0.001mm) sizes. The grade "6400" that most of us use for polish simply does not exist — unless it refers to the hypothetical sieve number. A hypothetical mesh size of 5,000 would give a grain size of approximately 2.5 microns, and a mesh of 12,500 would yield a grain of one micron size. It would certainly be appreciated if someone in the trade would establish a standard table so that we amateurs would know exactly what sizes of powders we were using as a polish. Haven't you noticed that we can get a better polish with one bort as compared to another? Size range and clean diamond is probably the answer.

Diatoms - diatomite - tripolite - Opaline or hydrous silica consisting of siliceous fossil skeletons of aquatic plants. White when pure. Particles in sizes up to fifty micron. A polish agent. Main sources are the United States, UK, Australia, etc.

Emery — A natural mixture of corundum, hematite, magnetite, etc. Hardness varies. Once widely used but now being replaced by synthetic corundum. Never popular with amateurs.

Flint — Sometimes used by amateurs in silversmithing as a fine sanding media.

Garnet — Abrasive. Crushed garnet used on paper and cloth for polishing and grinding. Also sometimes used by amateurs in sand blasting. Types used not suitable for gems except in rare instances.

Kaolin — silicate of alumina. Used, when levigated, as a polish agent.

Lime — Unhydrated dolomite containing a high percentage of magnesia. Actually cuts faster than crocus. Seldom used by amateurs except during the late war when mixtures of oxide of tin and lime were sometimes used.

Manganese dioxide — A polish agent. Due to its ability to enter the pores of the skin it is seldom if ever used by amateurs, however, it is a really good polish on some of the softer materials.

Pumice — A cellular, glassy, volcanic rock or lava. Floats on water. It often contains impurities such as feldspar. Pumicite is a finely divided white to grayish powder low in iron content. A natural abrasive now seldom used although it has definite possibilities.

Putty Powder — (See Tin Oxide).

Quartz — An oxide of silica. Used as abrasive in grinding pastes and for sand paper.

Rottenstone — A residual product from weathering and decaying of siliceous, argillaceous limestone. Soft, friable, earthy mass. Sometimes erroneously termed tripoli, (See diatoms and tripoli). Varies considerable in composition. Used but seldom in amateur circles.

Rouge — (See crocus) - Iron peroxide. Calcined ferrous oxalates, supposedly the darker the color the harder the rouge. Used extensively in working glass and an excellent polish agent for sphalerite.

Sandstone—Sometimes used for grinding large plates or specimens, however each wheel will give different results owing to the non-uniform grain size and hardness. It should never be used by the amateur because of the risk of silicosis.

Tin Oxide — Long a favorite of the amateur as a polish agent. It has fallen into the background as cerium oxide has advanced in use. The better grades of tin oxide are a mixture of tin and lead. The lead gives body. A proper percentage is 85 to 90 percent tin oxide and the remainder being oxides of lead. Still used extensively in the glass industry, its use should be curtailed completely by amateurs due to the poisonous nature of the lead. In just about every case one of the non-poisonous polish agents can be substituted whereever tin oxide is used — and often with better results.

Tripoli — natural tripoli. A fine grained silica and some different from diatomite and amorphous silica. Used as a polish agent — especially recommended by some as the best polish for sapphire. The German product being favored.

The powders mentioned have been given their normal technical names but you may encounter them under any trade name. To help distinguish some of those commonly in use in the lapidary art the following list is given as an aid to identification: (see next page).

This short article does not attempt to advocate any single substance for either a grinding or a polish media and has only made warning of some harmful materials. Every amateur is to be encouraged in experimenting in uses of various and varied materials and laps for increasing the pleasures we derive from our hobby. Anyone with any new or generally not known process is invited to come forth and present in these pages the secrets of their successes so that we may all benefit. There is certainly plenty of room for improvement in our present methods of both grinding and polishing; especially in all materials below five in hardness. Anyone have anything new along these lines?

NAME OF COMPOUND	COMPOSITION
Aloxite	Aluminum oxide
Alundum	Aluminium oxide
Carborundum	Silicon carbide
Carbometal	A "special" carbide
Ceria	Cerium oxide
Cerirouge	Cerium oxide
Crystolon	Silicon carbide
Diadust	Diamond
Diamantine (or Diamantin)	Aluminium oxide (no diamond content)
Microid	Aluminium oxide
Norbide	Boron carbide
Sira	Aluminium oxide
Trafotherm	Boron carbide
Zedite	A "special" carbide

Airborne Electromagnetometer Wins Blue Ribbon Mining Award

Aeromagnetic Surveys, Ltd. of Canada has received a Blue Ribbon Mining Award for development of a new airborne electromagnetometer.

Duane O. Wood, executive vice president and general manager of Hycon Aerial Surveys, Inc., Pasadena, Calif., said (Tuesday, May 22) the new instrument detects conductive ore bodies, such as zinc, lead, and copper deposits. Hycon Aerial Surveys is the only firm in the United States offering service with the award-winning equipment on a contract basis.

The airborne electromagnetometer makes it possible to cover far wider areas more quickly and at less cost than with ground-based equipment, he said.

Hycon has been employing it to perform surveys for several major mining operations during the past three months. A subsidiary of Hycon Mfg. Company and Varian Associates, Palo Alto, the firm performs worldwide aerial mapping and geophysical surveys.

The Blue Ribbon Awards are made annually by Mining World and World Mining magazines for "achievement in equipment development aiding the technological advancement of the mining industry." Selected by a panel of experts in the mining equipment and procedures fields, the award winners are announced in the magazine's special catalogue survey and directory issue.

The Consolidated PBY which carries the electromagnetometer is also equipped with the Varian Nuclear Resonance Magnetometer for measuring the earth's magnetic field, and a scintillation counter for measuring radio activity, Wood said.

Deveolopment of the Varian Nuclear Resonance Magnetometer won Hycon and Varian Associates a Blue Ribbon Mining Award in 1955.

George Frederick Kunz Memorial Prize

At the March meeting of the New York Mineralogical Club the George Frederick Kunz Memorial Prize was awarded to Mr. Davis Lapham a graduate student in geology at Columbia University for his paper entitled "Epidote from Hawleyville, Connecticut." This paper has been submitted for publication in the AMERICAN MINERALOGIST. Mr. Lapham was the first recipient of this prize, established by the New York Mineralogical Club in 1955.

The Prize is made possible by a bequest of the late Dr. George Frederick Kunz, founder and first President of the New York Mineralogical Club. The prize is awarded annually for the most acceptable paper dealing with the study of a mineral locality or minerals from a deposit located within a 50 mile radius of New York City. The award is made by a Committee of three recognized mineralogists selected by the Board of Trustees of the New York Mineralogical Club. All papers must be submitted by February 15, 1957 for consideration. The rules governing the submission of papers or other information concerning the award can be obtained from Dr. Ralph J. Holmes, Chairman of the George Frederick Kunz Memorial Prize Committee of the New York Mineralogical Club, Department of Geology, Columbia University, New York 27, N. Y.

Mineral Collecting In Northern New York and Southern Ontario

L. W. SCHOPPEE
9 Greenbrier Street, Springfield 8, Mass.

Large masses of highly fractured garnet, each surrounded by lustrous black hornblende, are plentiful at Barton Mines, Gore Mt., North River, N. Y. On NY Route 28, north, turn left four miles past North Creek at sign "North River Garnet Mines—Visitors permitted until 6 p. m." Five miles up a good mountain road are the Barton Mines and Mineral Shop where a guide to the mines must be secured.

At Long Lake, N. Y., take Route 28N to Tahawus, the National Lead Co., MacIntire Development, who give guide service weekdays by appointment. Just before entering Tahawus, turn left on a good road to visit the 100-year old blast furnace which was closed down because of "hard stuff' in the magnetite. The "hard stuff' now known as titanium is in great demand—it is found in ilmenite, a heavy, black mineral.

Just off N.Y 58 east of Gouverneur, is Talcville, where the old Freeman mine and the new Anthony mine offer plenty of colorful samples of talc, tremolite and hexagonite. Some of the tremolite is highly fluorescent. The superintendent, George Hurley, is very helpful to talk with.

On NY Route 3 east of Watertown, at the caverns at Natural Bridge, N. Y., is a good example of the joining of the igneous rock of N. Y. State and the sedimentary limestone of the north. For photos a flash is necessary.

Canadian Localities

Sydenham. In the recrystallized limestone at the Lacy Mine, Sydenham, Ontario, Canada, apatite, diopside and phlogopite are plentiful in crystals and massive form. Mr. S. W. Alexander, phone 144 Sydenham, is manager. Please close all gates behind you—cows! This is one of the loveliest spots we found for prospecting and picnicking.

Seeley Bay. On Route 32 from Seeley Bay toward Gananoque, Ont., Canada, turn left on Grippen Lake Road just north of a white church. About two-tenths of a mile from Route 32 stop and walk 300-400 feet south to two old limestone pits. The recrystallized limestone contains nodules of quartz and pyrite as well as well-shaped apatite crystals. This is on the Herbert B. Sly farm where permission may be obtained to collect.

Quartz crystals of all sizes, separate and in clusters, calcite crystals with chalcopyrite may be purchased at nominal fees from J. B. Steele who holds the mineral rights. Visitors should make a definite appointment with Mr. Steele, R.R.1, Lyndhurst, Ontario. The phone is: Thomas McConnell, Seeley Bay, 33 Ring 23. Directions to farm and mine: from Lyndhurst go south to a road leading left marked "Outlet, Lansdowne" and "Black Rapids," keep on this road, keep left at the lake. After the Black Rapids Bridge take left fork and stop at large stone farmhouse on the left a short distance beyond the bridge.

In the Seeley Bay area several prospect cuts yield good specimens of galena and sphalerite. Driving east from Seeley Bay on Route 15 turn right at Route 32 and take the second road to the left, which is a crossroad. Drive as far as possible to a little house for further directions and permission to collect.

For fossils in Paleozoic limestone, follow signs for Bonnechere Caves north of Renfrew, Ont., Canada, toward Eganville. These caves were discovered in January of 1955 and opened to the public in June. Surroundings yield unlimited specimens.

Small but nicely shaped corundum crystals, curved mica similar to the Branchville, Ct., margarodite, chalcopyrite in large masses, magnetite and the interesting form of pyrite in pyritohedrons are all found at Craigmont, Ont. mines. The

Craigmont corundum belt said to be 20 miles wide can be sampled most easily by travelling south 6 miles from the west end of the bridge at Combermere to the old buildings.

Farther along this same single track roadway of sand is the Burgess Mine where larger masses of corundum without the nice crystal form are more common. Burgess Mine is located at the end of an even narrower dirt road turning right off the Craigmont-New Carlow road about six to seven miles from Craigmont.

South of Route 62 between Combermere and Maynooth is the town of Graphite, Ont., where you should stop to inquire directions to the old graphite mine. A nice young couple now farm the land where the mine is located, and they willingly give permission to collect.

Pyrrhotite, richly colored calcite, dark blue-green feldspar, peristerite, coccolite in calcite and black quartz indicative of uranium thereabouts are all plentiful at the MacDonald Quarry. Location of owner's farm; from Route 62 between Maynooth and Combermere, Ont., at crossroads with schoolhouse on one side of Route 62 and a sawmill on the other, turn south beside the sawmill, turn left almost immediately over bridge, and continue up hill keeping right on principal road, no left turns. About six or seven miles from the bridge is a road right with church and school. Don't take it! Keep straight on the up-hill road to the top of the hill, and MacDonald's Farm is off the road a bit on the left.

Go out of Bancroft, Ont., on the Hermon Road about 2 miles (plus) to gravel pits on the left. Enter the second pit and walk along a path at the right. Sodalite is found here.

References

Carbola Chemical Co., Natural Bridge, N. Y. If you can stand the odor of carbolic acid, this is interesting and collecting is permitted. We found serpentine, pyrite on deep red jasper, hematite and calcite.

Russell Thompson, Burnt Hills Tourist Lodge, R.R. #3, Seeley Bay, Ontario for comfortable room and good meals for $6 per person. The location between Dog and Cranberry Lakes is good for fishing, prospecting around Battersea, Sydenham, Seeley Bay and Lyndhurst.

D. G. Willis (Mike), Seeley Bay center, has wide knowledge of Canadian minerals from study and prospecting. After 6 p.m. he is ready, willing and able to talk minerals.

A. J. Davis & Sons, commercial beekeepers with 700 colonies sell wonderful clover and basswood honey on the main route south of Seeley Bay. Souvenirs are scarce; this is a suggestion.

Sherk's Cedar Lodge and Cabins, Purdy Lake, Combermere, Ontario, offer scrumptious meals, private cabins, beautiful lake and boat privilege for $6 per person and is located in the corundum belt within a day's trip of Craigmont, Burgess, MacDonald Quarry, Bancroft locations and many others.

Mr. Frank Baalim, barrister, in Bancroft on Tuesday, and in Madoc on Wednesday to Monday, ardent rock collector any and every day of the week will direct prospectors and quite likely close up the office and personally guide mineral collectors to interesting locations.

Mr. Ellenbeck, whose barber shop is right on Main Street in Bancroft will dispense mineral information along with a shave and hair cut. He has a large and varied mineral collection in the back room of his barber shop.

Mr. Robbins, a miner, lives in a brick house just diagonally across from the barber shop in Bancroft.

Note for future prospecting: go out of Bancroft to Highland Grove and prospect every side road leading south from there to Wilberforce.

Customs: *Entering Canada*:
U. S. Customs: nothing required, not even stopping.
Canadian: stop and fill out papers stating accessories, cameras, binoculars, etc., taking into Canada.

Leaving Canada:
Canadian: return carbon copy of list made out on entering.

U. S. Customs: Stop for questions:
1. Where born (proof).
2. Value of purchases in Canada? *Any sent ahead?*
3. Any alcoholic beverages in the car?

Note: The Canadian Tourist Information offices are very helpful in suggesting places to stay.

Club and Society Notes

Attention Secretaries—Please submit neat copies. Give dates and places of meetings. Check names for correct spelling.

East

6th Annual Convention Gem and Mineral Show. Eastern Federation of Mineralogical and Lapidary Societies.

Rocks, minerals, gems and jewelry from all over the world will be on display in the Grand Ballroom of the Emerson Hotel, in Baltimore, Md., when the Gem and Mineral Show of the Eastern Federation of Mineralogical and Lapidary Societies opens on Thursday, Friday and Saturday, September 27, 28 and 29, 1956. Post convention field trips will be held on Sunday, September 30; one to Maryland's famous location for williamsite; the other to be announced later.

Special exhibits will include rare gems and minerals from the Smithsonian Institution of Washington, D. C.; the famous prize-winning hand-made silver and agate handled dinnerware of James W. Anderson; hand-made jewelry by Franz and Carl Zirnkilton, of Philadelphia, whose story and exclusive jewelry designs were the subject of a story called "For Millionaires Only" in the Saturday Evening Post of December, 1955; the Jacobs Collection of Carved Jade from the Baltimore Museum of Art and John M. Wise's collection of Oddities of the Rock World. Many more exciting collections are being negotiated.

A three day program is now almost complete, covering Rocks, Minerals, Crystals, Gems and Jewelry. It will be opened with the motion picture, "In The Beginning," which shows in color the geological formation of the earth with the history of the Grand Canyon billions of years before man. Dr. J. D. H. Donnay, Professor of Crystallography and Mineralogy of Johns Hopkins University, and president of the American Crystallographic Association, will speak on Crystallography. Dr. Francis J. Pettijohn, Professor of Geology of Johns Hopkins University, and past president of the Society of Economic Mineralogists and Paleontologists, will speak on a subject of geology, title to be announced later. Dr. Theodore L. Low, Head of Educational Department of the Walters Art Gallery of Baltimore, will speak on Jewelry Through the Ages. Paul E. Desautels, Chemistry Professor of the State Teachers College, with BS and MS Degrees from the University of Pennsylvania, will speak on Micromounts, the Most Perfect Mineral Specimens.

Miss Mary E. Mrose, of the U. S. Geological Survey, will speak on "What's New in Eastern Minerals."

Dr. George F. Carter, Chairman of The Isaiah Bowman School of Geography of The Johns Hopkins University, who startled archeologists with the announcement that humans lived in America more than 100,000 years ago, and found rock fragments in California believed used by these earliest humans, will speak at the convention banquet on Friday evening, September 28.

Mr. James H. Benn, of the U. S. National Museum, and president of the Eastern Federation, will moderate a Symposium on Minerals and Lapidary Work on Saturday afternoon, September 29. Panel members to be announced at a later date. Other equally prominent speakers will be announced with their subjects later.

There will be demonstrations, door prizes and souvenirs. In addition to the awards and prizes provided in the Rules and Regulations for Displays, Awards and Judging, a new trophy is being offered for the first time to clubs of the Eastern Federation showing the greatest club participation. It is the John M. Wise trophy; will be a rotating one, but will become the permanent possession of the club winning it three times.

Dealers are coming from California to the East Coast with many rare gems and minerals and newest equipment. Those occupying booths include T. B. Hagstoz & Son, of Philadelphia; Lapidabrade, Inc., of Jenkintown, Pa.; A. G. Parser, Inc., of New York City; W. C. Page of Los Angeles; Garden State Minerals of New Jersey; Haag Rock Shop of Tuscon; Emily's Art Studio of Wilmington, Delaware; the Earl Martins of Ann Arbor; Dr. Ralph E. Mueller & Son of Phoenix, Arizona; David R. Moul of Maryland; International Gem Corporation of New York City; Joseph I. Touchette, Inc., of Bethesda, Md.; Eckert Mineral Research and Naturegraph Company of Florence, Colo.; Ernest W. Beissinger of Pittsburgh; John M. Wise of Baltimore; Imperial Jade, Inc., of New York City; Denyse, Inc., of Washington, D. C., and Rock's, of San Antonio, Texas.

These dealers have promised a new line of sterling silver mountings especially designed for baroque gems, finest wulfenite collection ever offered for sale, unarovite crystals from Finland, never before seen on this continent, chrome-diopside xls from Finland, complete collection of radio-active minerals; wulfenite crystals from Glane Mine crystallization up to 10"; vanadinite crystals of outstanding size; sulphur from Italy, a new baroque capping method and capped stones and fittings for the do-it-yourself enthusiasts and, many more exciting items which space limits our listing.

There will be a hearty welcome awaiting all comers to this convention, gem and mineral show.

Elsie Kane White
Exec. V. P. and General Chairman
3418 Flannery Lane,
Baltimore 7, Md.

New York Mineralogical Club

February Meeting—Mr. Will Schulman tendered an invitation to visit the Pennsylvania Society Symposium scheduled for March 17-18 at Doylestown, Pa.

Mr. Mitchell discussed and exhibited excellent vivianite crystal specimens from Bingham Canyon, Utah.

Dr. Fred Pough showed color slides of Winston's new diamond crystal.

Dr. Ralph Holmes showed color slides by Mr. Mantell of the unusual petrified wood of the Island of Lesbos, Greece.

The speaker of the evening was Mary E. Mrose, U.S.G.S., who spoke on the rare phosphates to be found in the New England pegmatites. The talk was illustrated by color slides and introduced some new minerals to the club including one named "Yedlinite" after our own Neal Yedlin.

March Meeting—Mr. Davis M. Lapham, a Columbia student, was awarded the Kunz prize for his paper on Epidote from Hawley, Conn. Dr. Holmes introduced the winner and presented the certificate of award and the check for $100.00. The winner gave a short talk on the locality. A second paper submitted by Mr. Beran on the mineral localities of Franklin, N. J., was commended by the Committee.

The program for the evening was given by Mr. Otto Kopp who talked on differential thermal analysis. After the meeting Mr. Kopp invited the members to the laboratory at Columbia where the work had been performed.

April Meeting—Mr. William Taylor showed specimens from the Harding Mine at Dixon, New Mexico, and Mr. Mitchell exhibited gold specimens from the Red Ledge Mine, Nevada County, California.

The program was given by Dr. Karl Turekian on the subject of a "Geochemical Approach to Mineralogy". Dr. Turekian covered trace elements, age determination, and illustrated his talk in part with slides.

May Meeting—The following slate of officers was elected for 1956-1957: Mr. Curt Segeler, President; Dr. D. O'Connell, First Vice-President; Mr. David Seaman, Second Vice-President; Mr. Fred Hayden, Treasurer; Mr. Joe Rothstein, Secretary. Directors: Dr. Fred Stenbuck and Mr. Neal Yedlin. Mr. Victor Pribl who has served with distinction and merit for the past several years was extolled by both the President and the members for his work as secretary of the club. It is regretted that Mr. Pribl could not find the time to continue as secretary.

Dr. Percy E. Landolt was the speaker of the evening on the subject of Lithium. He discussed the four commercially important minerals, spodumene, lepidolite, amblygonite and petalite out of the 100 lithium minerals. Specimens were passed around for examination. The question of mineral reserves and important localities was discussed and Dr. Landolt gave a description of a pegmatite dike that would meet minimum mining requirements as well as describing the flotation process for recovery of lithium. He also touched on refining processes and concluded his talk on the use of the element in ceramics, greases, glass in sealed beam headlights, x-ray tubes, air conditioning, fluxes in metallurgy and for new light strong alloys. He regretted that he could not discuss

fully the isotopes, lithium six and seven of which lithium six has nucleonic importance.

Joe Rothstein, Secretary
255 W. 84th St.,
New York 24, N. Y.
TRafalgar 4-6338.

Mineralogical Society of Pennsylvania May Field Trip and 1956 Annual Meeting

Sunday, May 6th, the M. S. P. re-visited the J. C. Showalter Quarry at Blue Ball, Lancaster County, Pa., with our highly esteemed member, Mr. J. C. Showalter, acting as host. As in the past, our host provided all the ice cream, milk, orange juice (from his own diary), supplementing the treat with cookies, cigars, etc., that the 225 members and guests could put away.

Our retiring President, Mr. Harold Evans, conducted the meeting before an enthusiastic and interested audience. Committee reports were heard and special note was taken of the Safety Committees' report that the professional type first-aid kit has been received and Chairman Hickson's comment that the kit will not be needed if the members continue their fine cooperation. The annual election resulted in the choice of Mr. Harry E. Ranck as President, Mr. John Bertrand as Vice-President, Recording Secretary, Mrs. Gene Belz; Corresponding Secretary, Mrs. Otto Bauhof; Treasurer, Mr. Charles Belz, and Mr. Harold Evans as a member of the Board of Directors. Upon taking office, Mr. Ranck asked the present committees to continue their function. Dr. Edgar T. Wherry, of Philadelphia, one of the world's foremost mineral authorities, was unanimously elected to Honorary Membership.

Before and after the meeting the energetically, eager members were hard at work, under the warm Spring sun, working a seam of the famous Blue Ball pyrite crystals and making finds of the pink dolomite crystals, fluorite, calcite and quartz in the specially prepared shot. Many active swapping sessions were taking place, with the car trunks acting as swapping tables.

The members received, with much shock, the news that our C. A. Thomas was hospitalized and all expressed wishes for a very speedy recovery.

L. J. Duersmith
Chairman, Publicity (Pro tem)
405 Poplar St.,
Columbia, Pa.

Working a seam of pyrites at the J. C. Showalter quarry, Blue Ball, Lancaster Co., Penn.—May 6, 1956, field trip of the Mineralogical Society of Pennsylvania.
Photo by Harold Evans

Field trip and annual meeting of the Mineralogical Society of Pennsylvania at J. C. Showalter quarry, Blue Ball, Lancaster Co., Penn.—May 6, 1956.

Photo by Harold Evans

Mineralogical Society of Pennsylvania Excursion, June 17, 1956

The June Excursion of the M.S.P. was taken Sunday, June 17th, under very choice weather conditions. Our generous hosts being J. Robert Bazley Inc., at their immense Coal Strippings, St. Clair, Schuylkill County, Pa.

There were 178 members and guests present and every one seemed happy and satisfied. The area being so large, around 500 acres and 200 feet deep, afforded opportunity for every one, without crowding. There were finds of good pyrite cubes, small clear quartz crystals, glittering Marcasites (Sulphur Diamonds) in abundance, Siderites, striking specimens of colorful "Peacock Coal" and a mineral new to most of those present, Dickite (an interesting species in the Kaolin group). Dickite occurred in microscopic druses on quartz, an excellent addition to one's micro mount collection. No matter how enthusiastic the mineral collectors were, there were very few who could resist the masses of shale enclosing very well preserved impressions of some half dozen species of ferns, also calamites, "horse tails" and slabs of fossil prints of lepidodendron, tree trunks, in striking patterns, very sharp. Our fossil experts including Miss Julie Reed, Dr. Hopkins and Howard Ennis were in much demand to explain the beautiful forms being brought to light from between the sheets of smooth, black slate and shale, easily separated with a sharp chisel or knife blade. Many were the finds of much beauty and interest making the trip quite profitable to the collectors, of all ages and tastes.

Harry W. Trudell
Member Publicity Committee
1309 Highland Ave.,
Abington, Pa.

North Jersey Mineralogical Society

Superb mineral collections contributed by two notable New Jersey families formed the nucleus which has enabled the United States National Museum to build up the finest exhibit of minerals and gems in the world.

James H. Benn of Washington, D. C., who is a staff member of the mineralogical department of the National Museum, brought this information to the North Jersey Mineralogical Society at its May meeting held in the hall of the Paterson public library.

He was referring to the Canfield collection and the Roebling collection, both of which were given to the National Museum in the same year, about thirty years ago. He said he was sent to Dover and to Trenton to help in listing and packing the two collections, and still counts the work as one of the thrills of his life.

Frederick Canfield of Dover built up an outstanding suite of the rare minerals of Franklin, N. J., adding to a collection which his father had made by adding to a still earlier collection from another source. This

augmented collection included also excellent specimens of the zeolites and other showy minerals from Paterson and neighboring localities in northeastern New Jersey. An endowment fund was presented by Mr. Canfield along with his mineral collection, from which the National Museum buys outstanding new specimens from time to time.

Col. Washington A. Roebling's mineral collection was characterized by Mr. Benn as "one of the most magnificent ever collected by one man." Col. Roebling's ambition was to gather a group to include all the minerals known to exist—good and representative specimens of each—and he very nearly succeeded. After he became disabled by an accident in connection with building Brooklyn Bridge, Col. Roebling devoted his time to mineral collecting, and by purchase and exchange amassed a collection comprising all but a very few of the mineral species and subspecies then known to mineralogical science. This remarkable group of specimens likewise came to the National Museum with an endowment from the collector's son, John Roebling of Trenton, N. J., and new specimens are being added to the collection as they are available for purchase by the Museum.

Mr. Benn named and described other groups of minerals and gems which have been given to the National Museum, some of these also with endowment funds for new purchases.

He explained that the Museum is a division of the Smithsonian Institution and said the original mineral collection presented by James Smithson, the founder, was almost completely destroyed by fire many years ago.

In answer to a question of how the Washington Museum minerals compare with those of the British Museum, Mr. Benn said the British collection is much larger since there is less, or almost no revision among the specimens. He said the policy of the Museum in Washington is to replace specimens whenever better ones are available, and to store older ones for study or for distribution to selected institutions.

He spoke particularly of a display collection of American diamonds, all uncut stones, the largest one of which came from West Virginia. He said the collection has very recently received some diamonds synthesized by General Electric Company, and he considers them as genuine American diamonds.

He called attention to a flawless quartz sphere approximately a foot in diameter which is in the Museum. He said it was made from a 1000-pound crystal found in Burma; was roughed out in China and finally polished in Japan. It was purchased by a woman in California and given to the National Museum in memory of her husband.

Mr. Benn urged members of the local mineralogical society to visit the Museum collections whenever they are in Washington.

The society accepted with regret the resignation of William C. Casperson from the chairmanship of the program committee, and gave him a rousing ovation. Mr. Casperson, formerly curator of Paterson Museum and founder of the North Jersey Mineralogical Society, had held the post of program chairman for more than eleven years.

Marian B. Casperson
Publicity Chairman
9-11 Hamilton Street
Paterson 1, N. J.

Connecticut Valley Mineral Club

The Connecticut Valley Mineral Club concluded its winter program of indoor meetings with two bang-up illustrated lectures at the Springfield Museum of Natural History. In April Dr. B. M. Shaub of Smith College and Professor Albert B. Nelson of the University of Massachusetts provided fireworks, strange smells, and colored lights in demonstrating an inexpensive portable blowpipe field kit, with accessory candles, alcohol, forceps, charcoal, platinum wire and test tubes.

In May Dr. Cornelius S. Hurlbut, Jr., of Harvard University, described his recent trip to the land at the end of the rainbow, South Africa, where 40 percent of the world's gold is produced, as well as the world's chief supplies of platinum, germanium, petalite, lepidolite, tiger-eye, diamonds, monazite, chromite and many other important minerals.

John Paluch, 45 Gaylord St., Chicopee, Mass., is Trip Chairman for the Club and will plan collecting trips each month of the summer.

Mrs. Lawrence W. Schoppee
Secretary
9 Greenbrier Street
Springfield 9, Mass.

Bellows Falls Rock And Mineral Club

On November 26, 1955, at 8:00 P.M., the Bellows Falls Rock and Mineral Club met at the home of Mr. and Mrs. Fred Nies, Jr., R.F.D. #1, Bellows Falls, Vermont. After the business meeting was concluded Mr. Hugh MacInness, one of our members, gave a very interesting resume of some of the trips he and his family have taken in the past few years, and he also displayed a number of minerals he collected on these trips to the following locations: Nova Scotia, Indian Ladder Recreation Area in New York State; Clay Center, Ohio; Redstone, New

Hampshire; Herkimer County, New York and De Kalb, New York.

There were no meetings held during December and January due to the holidays, and also bad driving due to weather conditions.

February 24, 1956, the mineral club met at the home of Mr. and Mrs. Call, 15 Atkinson Street, Bellows Falls, Vermont. At this meeting our club voted to purchase a geological map of Canada showing the geology of Newfoundland, Labrador and northern Arctic islands. This map is in 36 colors, it incorporates the findings of 75 geological parties sent into the field between 1944 and 1953 by the Geological Survey. After our business meeting adjourned, Mrs. M. E. Jones, a new member of our club, displayed minerals, and jewelry she brought back from her trip to Alaska, she also brought a card projector with her and showed post cards and snapshots that were taken on her trip the summer of 1954.

March 31, 1956, we met at the home of Mrs. Grace Fairbrother, Rockingham Street, Bellows Falls, Vermont. After the business meeting Mr. Call gave a talk on the relation of rocks and minerals and man's existence now and in the past. He also spoke about the articles written in Life Magazine on the "epic of Man."

April 28, 1956, our Annual meeting was held at the home of Mrs. M. E. Jones, Minard Pond Road, Bellows Falls, Vermont. The following officers were re-elected for the ensuing year: Mr. V. Robert Call, President; Mr. Fred Nies, Jr., Vice President; Mrs. V. Robert Call, Secretary and Treasurer. Mr. Call showed the following colored film strips on his projector: The Changing Surface of the Earth, How Rocks are Formed, How things in the World Change. Weather and Climate, and he also showed a black and white film strip entitled The Connecticut River, 280 miles due South. Mr. Call passed around among the members a large book entitled "The World We Live In" by the Editorial Staff of Life and Lincoln Barrett. He informed the club that the Rockingham Public Library owns the book and that the Bellows Falls High School also has one.

Very good refreshments have been served by our hostesses at all our meetings. I am enclosing an item written by our new member Mrs. M. E. Jones (Ruth Jones).

Mrs. V. R. Call
15 Atkinson St.
Bellows Falls, Vt.

Item from Ruth Jones (Mrs. M. E. Jones)

Driving and camping in an Army trailer from Vermont with friends to Circle Hot Springs, Alaska, in the summer of 1954, a trip of 14,000 miles, started me well on my way to becoming a member of the Bellows Falls Rock and Mineral Club.

This type of travel affords little space for sizable souvenirs, however, I managed to tuck in a few, among which are, Jade from Copper river; iron ore and quartz from Seward; peacock copper from Yukon territory, and many others not identified to date. Black and brown obsidian, pink rhodochrosite, white calcite, green copper in talc from Virginia City, Montana, and several specimens from Yellowstone Park. Galena from Oklahoma, red garnet from Gore Mountain in Adirondacks.

I am looking forward to an adventurous summer hoping to enlarge my collection.

Ruth Jones,
Pond Road,
Bellows Falls, Vt.

South

New Rockhound Club Formed in N. C.

A group of 35 enthusiastic gem and mineral collectors met Saturday night, June 16th, 1956, at the home of Mr. and Mrs. Fred O. Scroggs, at Brasstown, N. C., and organized a Mineral and Gem Society to be known as "The Tri-State Rockhounders," with a sub-title; "Covering Western N. C., North Ga., and East Tenn."

The following officers were elected: President, Prof. M. C. Myers, Young Harris, Ga.; Vice President, Arthur Palmer, Marble, N. C.; Secretary, Fred O. Scroggs, Brasstown, N. C.; Treasurer, Herman B. Estes, Brasstown, N. C.

Standing Committees: Meetings and Field trips: W. E. Bates, Chairman, Murphy, N. C.; Greenville Garrett, Titus, Ga.; B. J. Cornwell, Murphy, N. C.; R. L. Anderson, Hayesville, N. C.; C. E. Barnett, Canton, N. C.

Publicity: Dr George Size, Chairman, Murphy, N. C.; A. H. Brannon, President North Georgia Tourists Association, Hiawassee, Ga.; C. R. Fried, Secretary Chamber of Commerce, Murphy, N. C.: R. G. Vick, County Farm Agent, Hayesville, N. C.; George Bunch, Editor, The Cherokee Scout, Murphy, N. C.

After the business was attended to they had a kind of round table discussion and agreed upon several policies for the club. Being in the center of what is often referred to as "Nature's Sample Ground," or a "Collector's Paradise," and knowing of the interest and enthusiasm of many, both young and old, we predict that this will be one

of the most active clubs in our Eastern States. Already, through the help of local collectors, many tourists are visiting our region mostly for this purpose. Those catering to the tourist trade should lose no time in geting informed of our Club's efforts and plans and be able to give out information along this line.

There is no age limit for membership. Dues will be $2.00 per year. Members will receive notices of all meetings, field trips, and copies of News Letters giving accounts of previous meetings, field trips, and other items of mutual interest which will be contributed from time to time by the members.

The first field trip will be on Sunday, July 8th, 1956. A visit to the famous Amethyst deposits in Rabun and Towns Counties, Georgia. The Field Trip Committee will act as hosts and guides.

Fred O. Scroggs, Secy.
Brasstown, N. C.

Rollin' Rock Club

The Rollin' Rock Club was formed in May of 1955 for the paramount purpose of creating a club for those good folks who were interested in rocks and minerals, but who lived in rural areas or cities and towns where no such club existed. State lines and national bounderies are just so many lines around the ole globe to the members of this club for its members live in 13 different states and two foreign countries. The club now has the grand total of fifty-four active members.

The first annual meeting was held on May 13th in the Coliseum at Austin, Texas. The acting president, J. Frank Woodward, of Alpine, Texas, presided over the club's first meeting. Sincere enthusiasm dominated the business meeting, resulting in many progressive suggestions being acted upon and approved such as: preparing a directory of its members; designing and purchasing club emblems and decals; presenting men and women who have helped advance this fascinating hobby with an Honorary Membership in this international rock club. An active membership drive will be conducted wherever there is a member. Officers for the ensuing year had been elected by ballots which had been mailed to all members. The elected officers' names were read and Loren Rogers of Los Angeles acted as the installation officer: J. Frank Woodward, President; Charles W. Livingston, Supreme Vice President; Mrs. J. Frank Woodward, Secretary; J. Frank Woodward, Jr., Treasurer.

The meeting was adjourned, after it was approved that the next annual meeting would be held in San Antonio, Texas, during the convention and show of the Texas Federation of Mineral Societies, Inc.

Any person wishing further information regarding this universal Rollin' Rock Club, write: Mrs. J. Frank Woodward at Box 1087, Alpine, Texas.

Rock Hound Round Up In Texas

The third annual Rock Hound Round Up held June 1, 2, and 3 on the Woodward Ranch, 17 miles south of Alpine, attracted 130 rock hounds from all over Texas and parts of New Mexico.

The rock hounds began arriving in Alpine and at the Woodward Ranch, Thursday, May 31. Early Friday morning (2 A.M. to be exact), the first group was escorted by Mrs. Frank Woodward 84 miles to Needle Peak where excellent specimens of Pom Pom agate were collected. Friday evening, many tired but happy rock hounds gathered around the numerous camp fires on Calamity Creek, within sight of beautiful Cathedral Peak of the Chisos Mountains, and in true rock hound fashion displayed "bragging rocks" to those arriving at the Ranch too late to make this trip. Plans were outlined for the field trips for Saturday, and everyone was given a choice of locations for different types of agate.

Early Saturday morning, one group left for Marfa to collect bouquet agate, while the others collected red and black plume agate, and "blue" agate on the Woodward Ranch.

Long before daylight Saturday morning, our genial hosts began preparations for the annual barbecue ,and at 3 P.M. the tables were overflowing with delicious barbecued goat, beef, and venison, potato salad, green salad, relishes of all kinds, beans, "son of a gun" stew, cake, watermelon, coffee, and iced tea.

Before the appointed time for the barbecue, rock hounds began assembling at the picnic grounds from over the hills, along the Creek, and down the cattle trails—eager to renew old friendships and make new ones. After a most delicious meal, several pictures of the group were taken.

Late Saturday afternoon, another group left for Needle Peak in order to be there in time to collect Pom Pom at day break on Sunday. Some left for their homes, while othere went in search of sunstones, or Alpine "diamonds." Many rock hounds, too tired to hunt anymore, returned to the Woodward Ranch Home where smiling Johnnie Cochrane of ROCK'S of San Antonio demonstrated the techniques of cabochon cutting and gave instructions to any one interested.

Those attending the Round Up are deeply indebted to the Woodwards—Frank and Mary Frances, Grant and Ann, Grant, Jr., and Kay—for their genuine Texas hospitality. (Needless to say, the two fine sons of Frank and Mary Frances were really missed—Frank, Jr., lives in Wichita Falls and could not get away, and Tommy is with the Armed Services in Germany). Thanks are also in order for Charles Livingston of Alpine who really knows how to barbecue!

Surely the 1957 Round Up will bring most of those attending this year's Round Up back to the Woodward Ranch, and in addition, many new faces will be seen.

Mildred K. Spillman
2110 Travis Hts. Blvd.
Austin, Texas.

Mid-West

Des Moines Lapidary Society

The members of the Des Moines Lapidary Society are very happy and thrilled over their exhibition of Rocks, Minerals and jewelry in their first show. We opened on May 3rd, but did not have our Guest Book there until Saturday, May 5th, at 2:00 P.M., and at 5:00 P.M., we had over 100 names listed. On Sunday the list of names was doubled.

We had so many lovely comments on our work and our exhibit in general that we really feel most important. Of course we have the added advantage of the lovely Art Center for a background. Oh, we are pleased. Our men and women have put so many hours of work on this project, so-o- when we get such results we just have to crow a little.

We are getting much publicity through our magazines and local papers also. Oh, I wish you could all see our beautiful map—we love it. Already we have had many out of town visitors, even from as far away as California, who were passing through. We begin to feel important and it's such a nice feeling.

May Meeting

A real exciting and busy social meeting of the Des Moines Lapidary Society was held on the third Saturday evening in May at the Des Moines Art Center, Des Moines, Iowa. The highlight of this get-to-gether was a talk by that young old timer, "Cap" Smith, a well known prospector; subject—"Gold on the Desert." It was a real down to earth rockhound talk and greatly enjoyed. It is also the title of a book soon to be published by Olga Smith, his wife. Watch for it.

July 22nd we are planning a "Cracker Barrel" meeting. It will be an outdoor pot luck supper, followed by a short business meeting and then you may pout or spout on anything or anybody, such as rock hunts, locations, rocks, rockhounds, dealers, lapidary tricks, new ideas, rockhound humor, etc. There will be alternating chairmen, you can speak your mind and everyone will have a good time—YOU ARE INVITED. At the home of Rockhounds Leo and Margaret Yanasak.

Press correspondent,
Suzy Q.

Cedar Valley Rocks and Minerals Society

The Cedar Valley Rocks & Minerals Society had an interesting and worthwhile meeting in March. Mrs. Eloise Gatewood, one of our members, showed slides and gave a most interesting talk on her recent trip to the Holy Land. Being so close to Easter was indeed most opportune. Mrs. Gatewood also had a showing of rocks from the Holy Land.

At our April meeting Dr. Ben Peterson gave a talk on "Chemistry of the Earth's Surface." Dr. Peterson's talk was most educational and instructive. Dr. Peterson is an instructor of chemistry at Coe College here in Cedar Rapids.

In April our Society had a small display of rocks and lapidary machines at the Marengo High School Science Fair.

Helen M. Slark
Secretary-Treasurer
1627-B. Ave. N.W.
Cedar Rapids, Iowa

Arizona

Mineralogical Society of Arizona

At the April 21 meeting of the Mineralogical Society of Arizona, Mr. and Mrs. Leslie Burror of Alameda, Calif., entertained with a picture safari through South Africa. Moving pictures in color were taken from a small plane flying low over the wild animals in their native habitat. These animal refuges are protected and patroled as national parks.

A few of the pictures were taken through the window of an automobile. A guard accompanied them and doors were not allowed to be opened. Animals are not afraid of

automobiles as the guards use them. No one is allowed to carry a gun, not even the guards. Many of the animals can be viewed through field glasses from tourist cabins in the parks.

Curiously, animal species pair up for protection, such as elephants with baboons, zebras with buffalo, etc. Some of the African elephants are 16 feet tall.

Native dances by Zulu girls are given under auspices of a travel agency. The school children dance for money or candy.

At Johannesburg, workers are recruited from various tribes to work in the gold mines. They receive 55c a day. On Sundays they dance; members of each tribe dressed in their own colorful costumes. Weird music is played on native instruments. Special for the visitors, however, they played, "Coming 'round the Mountain." The miners live in compounds. No women workers are allowed. After 27 they are considered too old to work.

Farming in South Africa is primitive and done with oxen, but they raise excellent crops. Maize and bananas are the native foods.

Around Africa's fishing areas, storks are as numerous as sea gulls along our western coast.

Among strange African tribes are the Pigmies, a nomadic people; and the Watusies. The Watusies are 6 to 8 feet tall. The men are still warriors and carry long spears, though there is nothing to fight anymore. Women do all the work. They raise pyrethrum, used in insecticides. Children pick the flowers for 5 cents a day.

The Watusies make beautiful beadwork. Their colorful costumes include bells on their ankles. They are very primitive, but once during a storm, Mrs. Burror heard them praying.

Other highlights were: an asbestos mine in the mountains; Zanzibar Island, one of the world's spice markets; Belgian Congo, near where Livingston was found, and Victoria Falls in South Africa, largest falls in the world.

At the close of the program, Ben Humphreys exhibited some unusual rock formations and told where they came from.

It was announced that the March show netted each of the three participating societies around $300 above expenses.

The April field trip was to the old Rawley Mine northwest of Gila Bend, Ariz. Material found was wulfenite. A caravan of 14 cars was guided by Moulton Smith and supervised by Joe Harris.

Members of the Mineralogical Society of Arizona were saddened at their May 4 meeting by news that Arthur L. Flagg (Mr. Rockhound) was in the hospital from a spinal injury caused by lifting. With good care, however, he expects to be out shortly.

At the annual election the following officers were elected: Mrs. Katy Trapnell, president; Harry Hill, vice president; Floyd Getsinger, Trudy Mills, Moulton B. Smith, Howard Van Horne, board members. Arthur L. Flagg was unanimously elected a permanent, honorary board member for life.

The MSOA established their circulating library, the books to be kept in a cabinet made by Walter Wells and housed in the Mineral Building.

An arm chair travelog to England, Ireland and Scotland was presented by Fred Burr, illustrated with kodachromes. Mr. and Mrs. Burr made the trip by plane from Newfoundland to England; first to Fred Burr's birthplace in London.

Highlights of the trip were: The Mormon Temple site in London; the 6 feet tall guards at Buckingham Palace; public place where they feed the pigeons instead of kill them; old Roman baths reconstructed; Shakespeare's Town; Cumberland, where they obtained mineral specimens; and famous stained glass windows. Both pictures and talk were outstanding.

At the May 18th meeting, it was announced that Arthur L. Flagg is still confined with a spinal injury; is under the doctor's care and awaiting further X-rays. He is missed by a host of friends who for 20 years or more have looked forward to seeing him at each mineral meeting—with their pockets full of rocks and with a multitude of questions.

Unrest isn't altogether a human characteristic. "Radioactive minerals are minerals that are not satisfied with what they are, and are disrupting to become something else." This was Scott Norvel's description of them in an informal talk. Norvel's present interest is pegmatite minerals. He said there are several black pegmatite minerals which might be valuable if they register activity. In a Crown King pegmatite he found a little pitchblende, columbite, tantalum, thorium and allanite.

Cy Hartman described linarite and said it is often mistaken for azurite. Large linarite crystals are found at Mammouth, Arizona.

Jo Parson's subject was pyrophyllite, found in metamorphic rocks—identical with talc in structure—is amber-colored, and has flower-like crystals. It is a rare aluminum silicate. Is used for carving in China.

The May field trip was to the Yankee Boy Mine and others near Mayer, Ariz. for onyx and jasper. Also to the Poland Tunnel Mine which has recently been reopened and has an electric train. In the early 1900's it had first a mule train and then a Plymouth motor. Mr. and Mrs. Paddock were hosts at their cabin at lunch time. The trip was supervised by Joe Harris.

Ida Smith, Cor. Secy.,
2238 East McDowell Road,
Phoenix, Arizona.

NOTE ON THE BOULDERS FROM GLACIAL DRIFT IN CALHOUN COUNTY, MICHIGAN

By Tomasz J. Turley, Chicago, Ill.

During my vacation days in September, 1953 I had taken a short field geological trip in the Albion and Marshall area, Calhoun County, Mich., and I had there a possibility to observe the occurrence of interesting glacial deposits (boulder clays, gravel and sand).

The Calhoun County of Michigan belongs to the very interesting region of occurrence of glacial and fluvioglacial deposits, which attract the atention of many geologists. The best earliest description of accumulation of boulders, pebbles, gravel, sand and morainic clays, was published by the famous geologist Frank Leverett with collaboration of F. B. Taylor. The description of geography and geology of Michigan, especially Calhoun County, by Leverett is till present day the fundamental source about glacial drift of Michigan, also of Illinois and Indiana.

The hill and undulating relief of Calhoun County, especially between Albion and Marshall, which I visited, is a perfect example of the characteristic glacial landscape caused by great glaciers.

According to Frank Leverett the surface of the bedrock of Calhoun, which consists of a Paleozoic group of rocks, Mississippian system, Marshall and Napoleon formations (sandstone and shale), is covered with glacial drift, like with a mantle. The highest bedrock surface in the southern Penninsula of Michigan is found in the area of outcrop of the Marshall sandstone, Mississippian age in Hillsdale and neighboring parts, Jackson and Calhoun. This glacial drift belongs to the Kalamazoo moraine system, the lobe of great Michigan glacier, Wisconsin age, Pleistocene epoch. The average thickness of the drift in South Peninsula of Michigan is about 300 feet, but there are some places near the border of Lake Michigan, where the drift is known to exceed 600 feet.

Looking at the glacial map of southern Peninsula of Michigan which was composed by F. Leverett, we can conclude that the surface deposits between Albion and Marshall consist from (1) moraine deposits (landlaid) rolling to gently undulating glacial deposits formed at border of ice sheet, (2) sand and gravel plains and channels of glacial drainage, also sandy lake deposits.

During my short field excursion along Highway 12 between Albion and Marshall I observed the outcrop of glacial drift about 15 feet thick in the northern vicinity of Albion. The drift consists here of yellow to reddish sandy boulder clay (glacial till). I collected here some boulders. There were fragments of sedimentary and igneous rocks, especially numerous pebbles of sandstone, shale, quartz and cherts. There are here also boulders of red granite.

The most interesting moraine deposits I found in a gravel pit between Albion and Marshall on Highway 12, near Marengo. The visible thickness of glacial drift in this big gravel pit is about 30 feet. The gravel pit near Marengo on Highway 12 certainly is the most interesting place in Calhoun county because here we can observe a great accumulation of glacial material (boulders, pebbles, gravel).

Because of the fact that the glacial drift in this place is exploited commercially and the glacial material is segregated, it is possible to collect here a big quantity of boulders and pebbles of various petrographical compositions. I have collected in this gravel pit during my short stay some number of glacial boulders and pebbles—there are fragments of almost all common rocks, but sedimentary and igneous rocks prevail: some separate minerals can be also collected. The size of boulders varies from 3 inches to 4 feet in diameter, the shape of boulders is different: round, spheroid or discoidal or flat with polished surface. Some boulders of igneous rocks taken out by exploitation of gravel are very large, about 4 feet in diameter. Among the boulders and pebbles which I observed in the gravel pit on Highway 12 near Marengo were following specimens:

IGNEOUS ROCKS

1. *Granite*: pink color with large masses of quartz, red orthoclase and mica.
2. *Gabbro*: large boulder about 4 feet in diameter, coarse grained red rock, consists of feldspars and augite.
3. *Diorite*: grey color, consists of plagioclase and hornblende.
4. *Diabase*: fine grained, greenish chloritic rock—big boulder about 3 feet in diameter.
5. *Basalt*: dark green, compact rock. A fine grained structure boulder about 3 feet in diameter.

METAMORPHIC ROCKS

Quartzite: violet color, fine crystalline structure. The violet color of quartzite depends on iron and magan oxides. Similar quartzite can be found also in moraine deposits in North Europe and is called Leading boulder, from Finland.

SEDIMENTARY ROCKS

Sandstone: yellow to grey colors.

Ferruginous Sandstone (sand cemented by deposition of iron oxide).

Siliceous sandstone (sand cemented by deposition silica).

Shale: black fragments.

Lime clay: concretion, irregular.

Nodule of ferruginous shale with nucleus of fossil, nut, seed or fruit?

Minerals: Limonite, hematite, ocher, red jasper, quartz (milky, chert, flint nodule smoky gray to dark color), fragments of orthoclase, pyrite, chalcedony of dark brown color.

Gravel: consists mostly of fragments of sedimentary rocks (sandstone, shale, limestone, etc).

Concerning the origin of the glacial boulders, it is possible to suggest that there were 2 sources of its accumulation: (1) The material, which was brought down by glacier from highlands of Canada (mostly igneous and metamorphic rocks and washed out by stream of water running from melting ice). (2) Local material from bedrock, mostly sedimentary rocks of Mississippian system Marshall formation (sandstone, shale, nodules). In conclusion I would like to note that the gravel pit between Marshall and Albion on Highway 12 is an excellent place for the collection of glacial boulders of many kinds of rocks. The gravel pit is like a natural petrographical story for all persons who are interested in glacial geology.

I wish to express my thanks to Dr. Leland Horberg, University of Chicago, for advice and discussion according to some questions of glacial geology.

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Interested in Trading!

Editor R & M:

I have a general collection, including fluorescents, micromounts, thumbnails, etc. I've been collecting for about 3 years. I'm interested in trading and would like to have other collectors drop in.

Clark P. McLean
Brass Castle Road, R.D. #1
Belvidere, N. J.

June 1, 1956

NOVICE COLUMN

In the Sept.-Oct. 1953 R&M, Gordon S. ViGario, 2231 Pine St., Bakerfield, Calif. suggested that a Novice Column be opened for rank beginners in mineral collecting. These amateurs, who do not know one mineral from another, may submit their names to the Novice Column. ....

It is our hope that collectors having duplicates may donate a few specimens to one or more novices who are expected to acknowledge receipt of specimens received and to reimburse each sender for postage paid on the packages. Please print or write plainly the names and localities of all specimens sent novices, and if 2 or more minerals appear on the same specimen, identify each. Remember the novices do not know one mineral from another, so please be as helpful as you can.

The following is the 17th list of novice collectors.

Carol Kay Rand, (8 yrs.), Box 491, Paragould, Ark.

David Allen, (11 yrs), 2020 Louis Rd., Palo Alto, Calif.

Danny Callahan, (15 yrs.), 4648 Bellflower, Lakewood, Calif.

Velma A. Wittel, 11504 Victory Blvd., No. Hollywood, Calif.

Jim Drahovzal, 1510 8th Ave. S. E. Cedar Rapids, Iowa

Grace Thornton, 541 E. Second, Newport, Ky.

James S. Kernaghan, (10 yrs.), 162 E. New Lenox Rd., Pittsfield, Mass.

Edward E. Freeman, Bay Road 92, Duxbury, Mass.

Keith B. Carlyon, (11 yrs), 110 W. Peck St., Negaunee, Mich.

David Keith, (11 yrs.), 13909 Pinehurst, Detroit 38, Mich.

Ralph J. Marks, Sr., RR #2, Box 192 Coloma, Mich.

Mrs. Anna Clemens, 11a Granite St., Nashua, N. H.

Arthur H. Reid, P. O. Box 125, Windsor, N. Y.

Paul Carlin, 108-25 - 44th Ave., Corona 68, N. Y.

Miss Maralyn Cohn, 24 Greenwich Ave., New York, N. Y.

Miss Margaret Keller 245 West 25th St., New York, N. Y.

Louis H. Roth, 148-31 90th Ave., Jamaica, N. Y.

Kenneth Porter, (12 yrs.), 515 Avenue "I", Brooklyn 30, N. Y.

Gene D. Robinson, Jr., Box 335 Robbinsville, N. C.

Colin Allen, (13 yrs.), Tiffin Rd., Findlay, Ohio

Kirk Lea, 3194 Lookout Cir., Cincinnati 8, Ohio

Robert Kammerer, (12 yrs.), 14548 Westland Ave., Cleveland 11, Ohio

Butchie Clark, (10 yrs.), % Lloyd Decker, R-2, Findlay, Ohio

W. Dean Fyock, 137 North Main St., Mercersburg, Pa.

Thomas Warner, (12 yrs.), 1744 Fitzwatertown Rd., Willow Grove 9, Pa.

Donald Moyer, 124 W. Hamilton Ave., State College, Pa.

Michael Bowers, (9 yrs.), 821 Whitman, Walla Walla, Wash.

M. E. Hamersley, 26 W. A-St., Pasco, Wash.

Richard Johnson, 2218 Marshall Ave., Wheeling, W. Va.

Ronald Delvaux, 247 Dauphin St., Green Bay, Wis.

Publications Recently Received

Maine Mines and mineral locations

By Philip Morrill. One of the most popular mineral areas in the East is Maine and Philip Morrill has increased the State's popularity with his publication "Maine Mines and Mineral Locations" which made its first appearance over a year ago—a 43-page publication with 7 maps.

Mr. Morrill has made a 2nd printing of the publication with new data and new maps. The revised edition contains 47 pages with 11 maps and sells for the same price—$1.00 per copy.

This is a very valuable publication for all collectors and especially for those interested in Maine minerals. Order your copy TODAY! For sale by Dillingham Natural History Museum, Naples, Maine.

Mineral Resources—Navajo—Hopi Indian Reservations, Arizona-Utah

By George A. Kiersch. Within a large undeveloped area of 25,000 square miles, some 80,000 Navajo and 5,000 Hopi Indians try to eke out a livelihood. The Reservations, generally known as the Navajo country, lie within parts of northern Arizona, western New Mexico, and southern Utah and cover an area equivalent to the combined states of New Hampshire, Massachusetts, Connecticut, and Rhode Island. The semi-arid mesas of the Navajo country are world renowned for their scenic beauty.

A mineral resources survey of the Navajo and Hopi Reservations lying within Arizona and a small strip south of the San Juan River in Utah was conducted by the University of Arizona and its findings have been published in two volumes, released in June 1956.

Volume 1, covers metalliferous minerals and mineral fuels. It is a 75-page publication with 35 figures and 6 tables.

Volume 2, covers nonmetallic minerals. It is a 105-page publication with 28 figures and 12 tables.

Published by the University of Arizona Press, Tucson, Ariz.

Radioactive deposits in California

By George W. Walker, Tom G. Lovering, and Hal G. Stephens.

"Radioactive deposits in California," the new SPECIAL REPORT 49 just issued by the California Division of Mines, describes California's uranium and thorium deposits in greater detail than has heretofore been published.

Written by geologists of the U. S. Geological Survey for the Atomic Energy Commission, the 39-page report lists all occurrences of radioactive minerals known to the Atomic Energy Commission up to the first of last year. Ninety-two are shown on the map, and a large number described in detail.

Every uranium-conscious prospector will want one of the new booklets, priced at 50c plus 3 percent tax. They may be ordered by mail from the Division's offices in the Ferry Building, San Francisco 11, or over-the-counter from the San Francisco, Los Angeles, Redding, or Sacramento offices (all in California.)

Industrial Sands of New Jersey

By James H. C. Martens. Because of favorable location with respect to markets as well as abundant supplies of suitable raw materials, New Jersey has been for many years one of the leading states in the production of special sands for industrial uses. The program of extensive highway construction and the continued activity in the building trades in New Jersey also requires the production of large amounts of both sand and gravel. It is being realized more and more that although sand and gravel are common and low priced materials they must be selected and prepared in such a way as to have special properties for their various uses. Because of low cost of production, transportation costs of sand and gravel are a large proportion of the total cost to the consumer, so that it is important to reduce the haulage to a minimum.

This report is intended to supply information on the sand and gravel industry of New Jersey and the geology and distribution of sand and gravel deposits. Representative samples of both commercial products and naturally occurring materials are described. Attention is directed to some undeveloped sand deposits, and results of a few tests on methods of improving quality of sand are given.

This is a 259 page publication with 58 tables and 1 plate (folded map of New Jersey showing location and stratigraphic classification of sand deposits). Of special interest to sand collectors is the section titled "Occurrence and Properties of Individual Minerals" (pp. 41-53). This section describes some of the minerals appearing in New Jersey sands—quartz, chert, feldspars, clay minerals, black opaque minerals, glauconite, leucoxene, micas, pyrite and marcasite, rutile, sillimanite, kyanite and andalusite, staurolite, tourmaline, zircon, minor accessory minerals, and rock particles.

"Industrial Sands of New Jersey (Bull. 6 of the Bureau of Mineral Research of Rutgers University) was recently published by Rutgers University Press, New Brunswick, N. J. Price--$2.00.

The Geology of the Bennington Area, Vermont

By John A. MacFayden, Jr. The area under discussion in this report covers about 210 square miles in the southwestern corner of Vermont. The primary purpose of the study of this area was an investigation of the structure of the lower Paleozoic rocks in southwestern Vermont. 72 pages, 3 figures, 8 plates.

Published by Vermont Development Commission, Montpelier, Vt.

The Mining Industry of the Province of Quebec in 1954

During 1954, the value of the mineral production of the Province of Quebec (Canada), reached the record figure of $288,348,399, a substantial increase as compared with the figures for the preceding year due, in large part, to an increased output of copper as a result of the development of several new mines. Quebec continues to maintain its position of second place among the Canadian provinces in the value of its mineral production.

143 pages, 8 plates, 1 figure.

Issued in June 1956 by the Department of Mines, Quebec, Que., Canada.

List of the Principal Operators and Owners of Mines and Quarries in the province of Quebec.

78 pages.

Issued in June 1956 by the Department of Mines, Quebec, Que., Canada.

Minerals and Rocks Calendar—1957

In 1955, Prof. Benjamin M. Shaub issued his Minerals and Rocks Calendar—1956 which was not only something new and unique but which created considerable interest and comment as well. This year he has done it again—issued Minerals and Rocks Calendar—1957.

The 1957 Calendar has an attractive, brilliant red tourmaline (in color) on the front cover—this fine crystal comes from the famous Pala, California locality. The Calendar contains 120 pages of which 56 pages show pictures of outstanding minerals and rocks. A calendar page for each week is ruled for each day of the week—also memoranda pages for notes.

This attractive Calendar. 6 x 8½ inches in size, sells for $1.50 plus 8 cents postage.

Order direct from Prof. Benjamin M. Shaub, 159 Elm St., Northampton, Mass.

Collector's Corner

For the special benefit of collectors who may be living in areas far removed from other collectors we have opened this feaure. In this corner, a collector may have his name and address listed for the purpose that other collectors may write him in the hope that through correspondence, exchange of ideas and specimens, new friendships may be formed. Listings are free.

H. J. Kendrick, Ophir,
San Miguel Co., Colo.

Meade B. Norman, 1524 Mitchell Ave.,
Tallahassee, Fla.

Steven Sturm, 521 Roosevelt Ave.,
Kewanee, Ill.

Edward Rushton, 730 Bexley Road,
West Lafayette, Ind.

Rex Lucas, Sumner, Iowa

Jimmy Henderson, (13 yrs.),
1345 W. 10th St., Bogalusa, La.

M. H. O'Brien, 2927 Vandenberg Rd.,
Muskegon 36, Mich.

Joseph Jeski (13 yrs.), 676 Humboldt St., Brooklyn 22, N. Y.

Lynn Wilder (16 yrs.) Box 51,
East Randolph, N. Y.

Mrs. Ammon Schwartzbach,
2239 Logan St., Harrisburg, Pa.

Mrs. Tres, Lawhead, 3rd St.,
Roulette, Pa.

Walter Scott Gray, Jr., 417 S. Perry Ave.,
Denison, Tex.

P. M. Plimmer, Box 701, Alpine, Texas.

G. W. Weber, 1320 Portland Ave.,
Walla Walla, Wash.

M. W. Anthony, P. O. Box 260,
Bellingham, Wash.

W. Erlach, P.O. Box 52,
Umtali, Southern Rhodesia,
South Africa.

VISITING ROCKHOUNDS WELCOME

The following subscribers would be delighted to have rockhounds call on them when passing through their cities. If any one else wants his name added to the list, just let us know.

R. A. Richards, Box 44, Morristown, Ariz.

Mrs. John A. Talbot, 1221 W. 6th Ave., Pine Bluff, Ark.

Rose Wey, 12526 S. Rose Ave., Downey, Calif.

Meade B. Norman, 1524 Mitchell Ave., Tallahassee, Fla.

Bert C. Cole, 1424 - 11th St., Lewiston, Idaho.

Steve Sturm, 521 Roosevelt Ave., Kewanee, Ill.

F. L. Fleener, 1415 Rosmer St., Joliet, Ill.

Leroy H. Grossman, 211 N. Park Ave., Batesville, Ind.

Edward Rushton, 730 Bexley Road, West Lafayette, Ind.

Rex Lucas, Sumner, Iowa.

David B. Sleeper, Box 4, Sabuttus, Me.

Leroy Leisure, 500 Townsend Ave., Baltimore 25, Md.

Carl F. Lemin, 624 E. Division St., Ishpeming, Mich.

Brentwood Lapidary & Gem Shop, 8913 White Ave., St. Louis 17, Mo. Phone WOodland 2-4067.

Edward T. Barone, 48 Elmwood Rd., Verona, N. J.

Clark P. McLean, Brass Castle Road, RD #1, Belvidere, N. J.

Don Alfredo, 322 Linda Vista, Las Cruces, N. Mex.

Vernon Haskins, East Durham, N. Y.

Robert Ransom, 906 Woodland Ave., Schenectady, N. Y.

William N. Secrist. 193 Lehigh, Rochester 19, N. Y. Phone GEnesee 8216M

Donald V. Dalton, Box 68, Chimney Rock, N. C.

Dept. of Physical Science, Belmont Abbey College, Belmont, N. C.

James A. Ray, 12 Caledonia Road, Asheville, N. C.

Fred J. Teague, 1612 3rd Ave., S. W., Hickory, N. C.

D. R. Holder, 4485 Indiana Ave., Winston-Salem, N. C.

Bill Berke, 1446 Earlham Dr., Dayton 6, Ohio.

Albert Laws Kidwell, 1410 Terrace Drive Tulsa, Okla.

Mrs. Ammon Schwartzbach, 2239 Logan St., Harrisburg, Pa.

Donald H. Leeds, 2025 Westfield Terrace, Bethlehem, Pa.

Leighton Donley, Box 101, Miners Village, Cornwall, Pa.

Adolph Hillstead, 1309 4th St., Brookings, S. D.

M. S. Ortman, Ortman Museum, 6 mi. N. of Marion, S.D.

P. M. Plimmer, Box 701, Alpine, Texas.

Howard V. Hamilton, 1340 Crandall Ave., Salt Lake City 6, Utah.

James M. Fagan Wallace, Va.

G. W. Weber, 1320 Portland Ave,. Walla Walla, Wash.

Commission Announces Gem Irradiation Policy

The U. S. Atomic Energy Commission announced recently that requests for irradiation of gems in Commission facilities will be treated in the same manner as requests for irradiation of other materials. The Commission's decision removes a suspension of gem irradiations which has been in effect since 1953.

It has been known for more than 50 years that color changes may be produced in gems by irradiation. Radium, and more recently particle accelerators, cobalt-60 and nuclear reactors have been used for this purpose. Radiations from a particle accelerator may produce blue or blue-green colors in diamonds. Irradiation in a nuclear reactor may produce a green color, which may be turned to brown under certain conditions of heating.

In April, 1953, the Commission temporarily suspended the issuance of authorizations for irradiation of diamonds and other gems in Commission facilities pending study of the policy involved in such irradiations. As a result of the study, it was decided that requests for gem irradiations should be handled in the same manner as other requests for service irradiations. Commission policy is to authorize irradiations when reactor space is available. A fee covering the cost of providing the irradiation service is charged.

The Commission noted that "Trade Practice Rules for the Diamond Industry" were published by the Federal Trade Commission on February 10, 1956. The rules, which went into effect on March 10, 1956, provide in part:

> "DECEPTION AS TO COLOR . . .
> It is an unfair trade practice to advertise, offer for sale, or sell any diamond which has been artificially colored or tinted by coating, irradiating, or heating or by use of nuclear bombardment, or by any other means, without disclosure of such fact to purchasers or prospective purchasers, or without disclosure that such artificial coloring or tinting is not permanent if such is the fact."

Diamonds irradiated in a nuclear reactor become radioactive temporarily but the radioactivity decays to an insignificant level within a few days.

DR. WILLIAM F. FOSHAG

(Obituary Notice)

Dr. William F. Foshag, 62, head curator of the Department of Geology at the U. S. National Museum, Washington, D. C., died May 21, 1956, of a heart attack in his home at Westmorland Hills, Maryland.

For 37 years, since his graduation from the University of California, Dr. Foshag was with the National Museum's Department of Geology. He was first assistant curator for the Division of Mineralogy, then curator until 1948, when he was appointed head curator of the Department of Geology.

Among his studies were the volcano Paricutin in Mexico; borax deposits in Death Valley, Calif., and minerals in Mexico and the United States. Largely through his efforts, the Museum's mineral collection has been ranked the most complete in the world.

Among his hobbies were azalea growing, the sport of fishing, and painting, which he shared with his wife, the former Merle Chrisler.

Dr. Foshag was a great leader in his profession and at all times freely extended aid to those seeking information concerning rocks, minerals and gems. His passing is a loss to scientists and amateurs alike—his memory will be preserved for posterity.

Current Events of
the Eastern Federation
May 1956

Looking Back —

25 years ago in Rocks and Minerals

June 1931 issue

THE GREAT SOUTHWEST AND ITS MINERALS, by Edmund H. Cienkowski, pp. 71-72. During the summer of 1930 the author made a trip to the mining regions of the Southwest, and the article gives a brief description of the localities visited and minerals seen.

THE GEM DEPARTMENT, conducted by Gilbert Hart, pp. 73-75. "Prospecting for gems," was the subject featured.

SILVER PRODUCING MINES OF BRITISH COLUMBIA, by V. L. Eardley Wilmot, pp. 76-77. British Columbia is the largest silver producing province in Canada.

A COMPILATION OF GEM NAMES, by Gilbert Hart, pp. 81-83. This is the final installment of the very interesting compilation of gem names (the largest ever printed up to 1931) made by Mr. Hart, the first installment of which appeared in the Dec. 1927 issue. This final installment covered names from Touchstone to Zonochlorite.

WITH OUR ADVERTISERS

Conducted by James N. Bourne
% Rocks and Minerals, Box 29
Peekskill, N. Y.
Advertisers are cordially invited to submit News Items to this Department.

"Scott J. Williams, 2346 S. Scottsdale Road, Scottsdale, Ariz., has issued another Fine Mineral List for June 1956 including some very interesting specimens from Australia as follows:

Absite—described as a new radioactive mineral from Crockers Well, South Australia.

Davidite—Radium Hill, Olary, South Australia.

Metatorbernite — South Alligator Gorge, Northern Territory, Australia.

Stillwellite—a new rare earth mineral from Mt. Isa, Queensland.

Zeunerite—Adelaide River, Northern Territory, Australia.

"WHEN YOU ORDER . . . All specimens are sent on a 10-day approval basis with money back guarantee. Please indicate alternate choices as many specimens are 'one of a kind.' Prices are F.O.B. Scottsdale. NEW CUSTOMERS, other than recognized institutions, are asked to enclose a deposit; all customers are asked to remit balance due on receipts of invoice. Thank you."

We are pleased to have Paul Carlin, prop. of RocKard, Box 115, Corona 68, N. Y., join us this issue as a display advertiser. Paul is one of our satisfied subscribers of good standing and we welcome him to the fold.

"Mr. Carlin has for sale RocKard #1, printed specimen cards, 2" x 3" at $1.10 per 100—also printed index cards, RocKard #2, 3" x 5" at 80c per 50 and $1.50 per 100—which are very neat and ideal for compiling information concerning your little treasures. RocKards cover most everything a rockhound, student, mineralogist, or collector would wish to record about a specimen (including appearance and tests). Sample RocKards on request, order by name and RocKard #1 or #2."—Note: Many of our readers write in to us mentioning the difficulty they have in recording and properly identifying their specimens as to future reference and also to keep up with their expanding collections in general. The above mentioned RocKards will solve that problem may it be yours.

From Fisher Research Laboratory, Inc., 1961-63-65 University Ave., Palo Alto, Calif., an advertiser with us the past year as of our "Where to Get It" column, comes the following announcement which may be of interest to our readers.

"As you could possibly surmise our company has a considerable inventory of geiger and scintillation counters left over from the collapsed uranium boom. We are continually investigating new methods of disposing of this excess inventory.

"We have offered these instruments at greatly reduced prices. In addition we have offered them at even greater reduced prices to various science departments in our high school systems. It is too early for us to evaluate the results of this last effort." Note—Many of our readers of the past year noted in their correspondence to us of their desire to own a geiger counter or a scintillator but the high cost of a good one was an obstacle. Here is an opportunity to purchase one at a greatly reduced price from the above advertiser.

John S. Albanese, P. O. Box 221, Union, N. J., is offering a type of service long needed by collectors having difficulty identifying Franklin, N. J. minerals.

Franklin, N. J. mineral collectors now have the opportunity to have their doubtful specimens identified by a specialist. With some specimens, a visual examination is all that is required, while with others, a qualitative analysis is necessary. A fee will be charged those interested. We quote a portion of a recent letter from Mr. Albanese:

"I think this type of service has been needed for a long time. Often, when I started, I sent specimens to museums for identification, and waited once, seven years for their return. Museum curators, and college people are too busy to identify all sorts of rocks and minerals for every collector in the country."

We received a nice letter from Harvey Bailey, West Hartland, Conn., who has been advertising in R & M via the classified column and we quote him in regards to his appreciation of our publication:

"Enclosed $3.00 check for a year's subscription (renewal) to R & M. It is a wonderful magazine full of helpful suggestions and articles."

"I received over 80 replies from the classified ad I had in your Jan.-Feb. issue, so I know your magazine is the best."

Ex Mineral Products, P.O. Box 36, Westminster, Colorado, sends us the following note:

"Wish to announce my acquiring dealership and distributor for the new MIC-10 Transisterized Geiger Counter, retails for $19.95, manufactured by Westwood Research and Development Laboratories, Inc., of Calif."

ROCKS AND MINERALS has just learned that the American School of Gemology, one of its eastern advertisers located in Washington, D. C., is being moved to Saratoga, California, by its present director, Ben. J. Chromy.

Mr. Chromy, who will be remembered by readers of ROCKS AND MINERALS as being active in the Eastern Federation of Mineralogical and Lapidary Societies of which he was president several years ago, acquired the American School of Gemology some time ago and completely revised the course. He also designed the Chromoscope which is a combination polariscope and dichroscope that is furnished with the gemology course. His interests in mineralogy go back many years and he has a fine mineral collection numbering several thousand specimens that is also being moved to Saratoga where he has purchased a beautiful home and also a building in which to conduct his research work and patent practice. He is not a newcomer to California as he spent most of the war years there while serving as a major in the Manhattan District atomic bomb project.

Can't do without R & M!

Editor:

Couldn't possibly do without your magazine. It makes the rounds of college and friends.

Mrs. Thomas M. Cox
144 North Mercer St.
New Wilmington, Penn.

May 22, 1956

R & M brings complete satisfaction!

Editor R & M:

As tangible evidence of my complete satisfaction with your publication ROCKS AND MINERALS, I am enclosing my money order for my second five year renewal subscription.

When I sent you my first five-year renewal subscription in 1951 I said that I thought your publication "one of the best in its field." I would like to amend that statement to say that I now think it is the BEST in the field. I can honestly state that I cannot think of any way to improve on your efforts.

Francis W. See
6 West 184th Street
Bronx 68, N. Y.

May 25, 1956

THE GEM COLLECTOR

(Continued from page 375)

In the United States the best locality for Peridot is in Arizona, near Fort Defiance, where the stones weather out from the matrix rock and are scattered over the sand and in the sandy stream beds.

Peridotite is a type of igneous rock found in great abundance in many world localities, but since it is a mixture of silicates the Peridots free enough of impurities to be gem quality are very small and too difficult to remove from the matrix to be used as gems.

The Peridot, which is one of the classics of the gem world, should be represented in every gem collection. Do you have one?

R & M most enjoyable!

Editor R & M:

Herein please find a cheque for three dollars to continue my subscription in a most enjoyable magazine. Your range of subjects in the rock field is truly amazing.

Ron Purvis
Cum-Sheen Jade
Lytton, B. C., Canada

May 14, 1956

Enjoys all features of R & M!

Editor R & M:

My renewal subscription to R & M is enclosed. It is a fine magazine. I find practically all the feature articles interesting and enjoy World News on Mineral Occurrences, Collectors Column, With Our Advertisers, Publications, Club and Society Notes. Some of the other departments, such as Fossils and Lapidary are not of particular interest to me but I am sure they add to the value and interest and usefulness of the magazine. The only one that has me puzzled is the Sand Collector. Can't see that it does R & M much more good than two tails on a cat, but apparently some people like it, so keep up the good work.

Bertrand Giegerich
170 E. New Lenox Rd.
Pittsfield, Mass.

March 10, 1956

Subscriptions to R & M an investment!

Editor R & M:

A subscription to R & M is an investment, not an expense, where the dividends are unlimited.

N. J. Busby
P. O. Box 77
Melrose Highlands 77, Mass.

June 28, 1956

Tumble Polished Gems

From the world over

We have in stock, tons of beautiful Baroque stones of more than thirty varieties, in sizes from 1/4" to 1 1/2" with quality and finish equal to any on the market.

Sold under a "satisfaction or money back guarantee."

PREFORMS—We are now cutting thousands of beautiful Cuff-Links, Ear-drops and preform stones for Bolo ties of many kinds of nice materials.

DEALERS, write for wholesale prices.

When in Southern Calif. visit our retail store and largest Gem-Stone rock yard in the west (No retail orders by mail please).

We do custom sawing and tumbling, write for particulars first.

San Fernando Valley Gem Co.

5905 Kester Avenue — *Van Nuys, California*